

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-016649**Date Inspected:** 07-Sep-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:	Jim Cunningham and Jesse Cayabon			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.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) and Jeremy Dolman (ID #5042) continuing to perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) 4W/5W side plate 'E1' outside. The welder was observed 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 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 to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior and maintained the preheat by moving the heater blankets on the side of the plate during welding. The vicinity was also properly protected from wind and other climatic changes. During welding, ABF Quality Control (QC) Jim Cunningham was noted monitoring the welding parameters of the welder. Fill pass welding was still continuing at the end of the shift and should remain tomorrow.

At OBG 2W/3W side plate 'C' outside, QA randomly observed ABF welder Rick Clayborn continuing to perform fillet and partial joint penetration (PJP) welding in 2F/2G position using Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode. The welder was welding on 2 1/4" wide x 3/8" thick drip plate to the side

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

plate of the OBG at panel point PP19. The drip plate and the surface of the side plate (where the drip plate was welded) were noted ground and the paint coating removed. ABF QC Jesse Cayabyab was noted monitoring the welding and its parameters. At the end of the shift, fillet and PJP welding of the drip plate to the side plate were completed and was visually accepted by QC Jesse Cayabyab.

At OBG 1W/2W longitudinal stiffeners inside, QA randomly observed ABF welder Yao Xin Liang ID #7238 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding fill pass on the longitudinal stiffener LS6 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 propane gas torch prior welding. During the shift, the welder has completed back welding the LS6 and has moved to LS5 and LS4. LS5 and LS4 were also welded using the same WPS as mentioned above. The QA Inspector noted the ABF QC Inspector Tom Pasqualone 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, all three stiffeners were completely back welded but were not cleaned. According to QC Tom Pasqualone, other ABF personnel will be doing the grinding/cleaning of the welds.

At OBG 1W/2W longitudinal stiffeners inside, QA randomly observed ABF welder Wai Kitlai ID #2953 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding fill pass on the longitudinal stiffener LS3 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 propane gas torch prior welding. During the shift, the welder has completed back welding the LS3 and has moved to LS2. LS2 was also welded using the same WPS as mentioned above. The QA Inspector noted the ABF QC Inspector Tom Pasqualone 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, LS2 back welding was still continuing and should remain tomorrow.

At OBG 5E/6E side plate 'E' inside, QA performed Magnetic Particle Testing (MT) on the welded and wire brushed cover reinforcement of the splice butt joints. During MT, QA was using Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. There were no significant defects noted during the tests.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

At OBG-4W/5W side plate 'E' outside ABF welders Jeremy Dolman, Rory Hogan and ABF QC Jim Cunningham were noted measuring the weld cover reinforcement of the splice butt joint after welding.



At OBG-2W-3W side plate 'C' outside (PP19), ABF welder Dick Chybora was observed welding the drip plate to the side plate of the OBG.



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) 227-5298, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer