

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016213**Date Inspected:** 12-Aug-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 Jim Cunningham			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 and Jeremy Dolman continuing to perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) 5E/6E side plate 'C2' 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 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 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) Jim Cunningham was noted monitoring the welding parameters of the welder. During the shift, fill pass welding was still continuing and should remain tomorrow.

At OBG 4W/5W side plate 'C' (7916mm to 9955mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt joint. The welder was observed performing automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored

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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 had a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 200 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. During the shift, cover pass welding of the splice joint at location mentioned above was completed except for the end portion approximately 12 inches long which was welded using 1/8" diameter E7018H4R Shielded Metal Arc Welding due to limited access of the Bug-o track. This portion of the splice joint was also completed during the shift.

At OBG 5E/6E side plate 'E' outside, QA randomly observed ABF personnel Mike Maday and Bryce Howell continuing to perform plasma arc gouging on the backing bar removal of the splice butt joint. The personnel were using an Esab plasma arc gouging machine that has the nozzle holder attached to a Bug-o track. Gouging of the backing bar was not completed today and should continue tomorrow.

At OBG 4E/5E side plates 'C' outside, QA observed flush grinding of the weld cover reinforcement of the splice joint was completed. The personnel who performed the flush grinding are now grinding off the paint on the plate where Ultrasonic Testing (UT) scanning will be carried out. While on the other side of the plate 'E' of the same OBG, flush grinding of the weld cover reinforcement of the splice joint still continues.

At OBG 5E/6E side plate 'C' outside, ABF welder Jeremy Dolman was noted grinding/cleaning the weld pass just welded prior to put another pass.



At 4W/5W side plate 'C' inside, ABF welder Songtao, Huang was observed 1G SMAW welding fill pass on the splice butt joint. The Bug-o track was not accessible to the corner of longitudinal diaphragm so he used the 1/8" diameter E7018H4R electrode.



Summary of Conversations:

At OBG 5W/6W side plate 'C' inside, QA and QC made a joint alignment check on the splice butt joint while the welders were moving and preparing their welding equipment and accessories to weld on this location. Although the fit up had been previously checked, QA and QC want to make sure that there have been no changes on the alignment prior to proceed welding. During the inspection, QA and QC noted a minimal change of the alignment except on the root opening on two areas where in the opening was noted less than 4.0mm. QC William Sherwood has marked the locations where they need to open up the root opening and then instructed the welder to grind them open.

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.

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Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
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Reviewed By:	Levell, Bill	QA Reviewer
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