

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016405**Date Inspected:** 24-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:	Jim Cunningham 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 5W/6W side plate 'E' (3640mm to 7900mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 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 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 150 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. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) and Jeremy Dolman (ID #5042) perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) 5E/6E bottom plate 'D1' 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

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(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.

At OBG 4W/5W edge plate 'F' inside, QA randomly observed ABF welder Fred Kaddu perform welding repair on the welded cover of the splice butt joint. The joint was visually inspected by ABF QC William Sherwood and rejected it due to the presence of numerous undercut. The welder was using Shielded Metal Arc Welding (SMAW) with 1/8" diameter, E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Revision 1. Welding repair on the cover of the joint was completed and the welder was seen moving to another location.

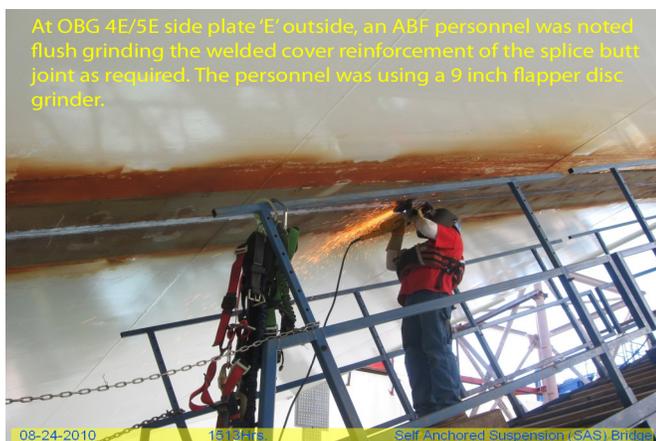
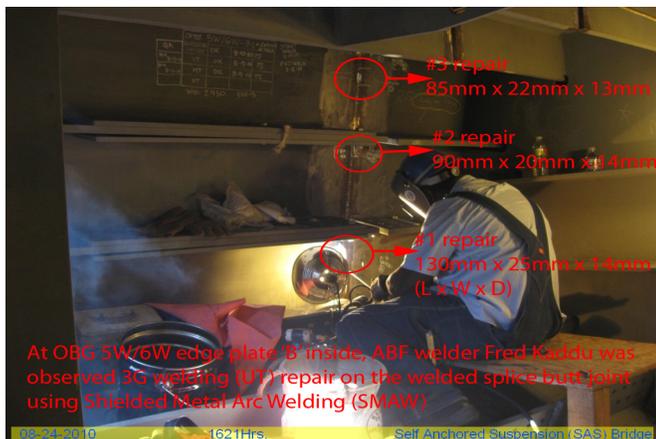
At OBG 5W/6W edge plate 'B' inside, QA noted welder Fred Kaddu moved in the area and excavated three (UT) repairs. The three welding repairs were excavated to a boat shape using a die grinder with a barrel bit. After the completion of the grinding, ABF QC performed the Magnetic Particle Testing (MT) on the excavations using Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. After the satisfactory completion of the MT, the welder started preheating the plate to 140 degrees Fahrenheit. The welder was observed welding in the 3G (vertical) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The repair excavations were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC William Sherwood was noted monitoring the welder. At the end of the shift, repair welding was still continuing.

At OBG 4W/5W 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 5E/6E side plate 'E' outside, ABF personnel was noted flush grinding the weld cover reinforcement of the welded splice butt joint as required. The personnel was using 9" flapper disc grinder with the grinding cut to the plate parallel to the direction of the bridge in compliance to the project specification.

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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) 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