

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016543**Date Inspected:** 26-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:	Jesse Cayabyab 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' (1000mm to 3640mm) 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 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. During the shift, the welder has completed the cover reinforcement of the area he was welding and has moved to new location at 500mm to 1000mm. Since this location was inaccessible to the Bug-o track, the welder has used Shielded Metal Arc Welding (SMAW) with 1/8" diameter, E7018H4R electrode to continue the splice welding. At the end of the shift, SMAW 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 cover pass on Orthotropic Box Girder (OBG) 5E/6E bottom plate 'D2' 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

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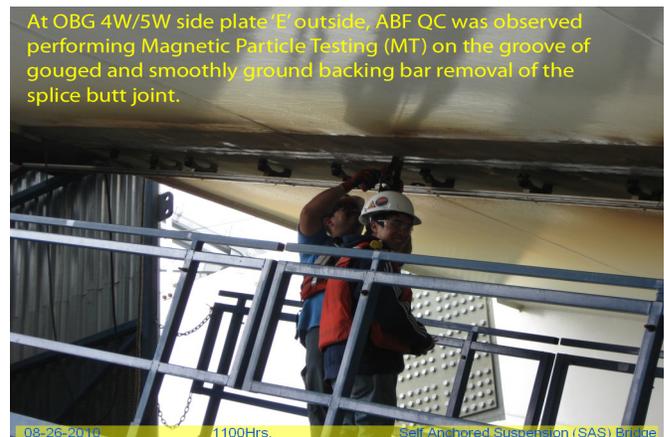
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Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. 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. Also during the shift, welding of the cover reinforcement was completed and was preliminarily/visually inspected by QC Jim Cunningham for surface profile and defects with affirmative result. Final VT will be performed after the completion of flush grinding of the weld cover reinforcement.

At OBG 4W/5W side plate 'E' outside, QA randomly observed ABF QC Salvador Merino perform Magnetic Particle Testing (MT) on the groove of the gouged and ground backing bar removal of the splice butt joint. QC was using Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. According to QC, there were no significant defects noted during the tests. The groove was noted smoothly ground and was having a width of 25mm to 30mm and a depth of 10mm.

At OBG 5W/6W side plate 'C' outside, ABF personnel Bryce Howell and Mike Maday have moved here and started grinding fitting gears/temporary attachments that were used to hold in place the backing bar. At the end of the shift, grinding of the 24 pieces of fitting gears was still ongoing and should continue tomorrow. According to the welders, as soon as they complete grinding all the temporary attachments, they will get ready and start the plasma arc gouging of the backing bar removal of the same OBG splice joint.

At OBG 4E/5E side plate 'C' inside, QA randomly observed ABF/JV qualified welder Fred Kaddu perform CJP groove welding repair. 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 weld repairs were excavated to a boat shape. The repair excavations were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Jesse Cayabyab was noted monitoring the welder. Prior welding, ABF QC Jesse Cayabyab was also observed performing Magnetic Particle Testing (MT) on the repair excavations. During the shift, the welder has completed four welding repairs inside and welding was still continuing.



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At DBG 4W/5W side plate 'E' outside, the groove of the gouged and ground backing bar removal was smooth and has a width of 25mm to 30mm and a depth of 10mm. After the satisfactory completion of the Magnetic Particle Testing (MT), the joint is now ready for the splice back welding.



At DBG 4E/5E side plate 'C' inside, ABF QC Jesse Cayabyab was observed performing Magnetic Particle Testing (MT) on the excavation of the (UT) repair of the welded splice joint. The QC was using electromagnetic yoke with red magnetic powder as detecting media.



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
