

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016632**Date Inspected:** 31-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

<b>CWI Name:</b>	John Pagliero and Mike Johnson			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	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 'C2' 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 200 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 5W/6W side plate 'C' 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

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backing bar was not completed today and should continue tomorrow.

At OBG 1E top deck plate outside, QA randomly observed ABF welders James Zhen and Jin Pei Wang perform CJP groove welding in 1G (flat) and 4G (overhead) positions respectively on the erection access hole infill plate to top deck plate. The welders were using Shielded Metal Arc Welding (SMAW) with 1/8" and 5/32" diameter E7018H4R electrodes implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1050A Revision 1. The infill plate being welded has 45 degree single bevel and the joint has a ceramic backing that will be removed/backgouged and back welded. The location/welder of infill plates that were being welded were as follows;

1. 1E-PP8.5@E3#2 – welder Jin Pei Wang, back welding fill pass at 4G (overhead) position using 1/8" diameter E7018H4R electrode
2. 1E-PP8.5@E4#1 – welder James Zhen, completed weld cover reinforcement at 1G (flat) position using 1/8" diameter E7018H4R electrode
3. 1E-PP8.5@E4#4 – welder James Zhen, welding fill pass at 1G (flat) position using 5/32" diameter E7018H4R electrode

During welding, ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of welder Jin Pei Wang while ABF QC Mike Johnson was monitoring welder James Zhen. At the end of the shift, the two welders were still continuing welding and should remain tomorrow.

At OBG 4E/5E side plate 'E', OBG 5E/6E side plate 'C' and OBG 5E/6E bottom plate 'D' inside, QA performed visual test (VT) and 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.

At OBG 5E/6E side plate 'E' outside, QA randomly observed ABF QC Steven Mc Connell perform Ultrasonic Testing (UT) on the welded and flush ground cover of the splice butt joint. At the end of the shift, QC Steven Mc Connell was still performing UT on the joint and should remain tomorrow.



## Summary of Conversations:

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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.

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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell, Bill	QA Reviewer
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