

**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-017354**Date Inspected:** 06-Oct-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 William Sherwood			<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.

At OBG 6W/7W side plate 'E' (3500mm to 7955mm) 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 perform 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 has 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 heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding on the splice butt joint 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) welding fill pass on Orthotropic Box Girder (OBG) 6E/7E side plate 'C' outside. The welders were 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

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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 degree Fahrenheit prior welding and the vicinity was properly protected from wind. 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 on the splice butt joint was still continuing and should continue tomorrow.

At OBG 4W top deck plate 'A' panel point PP24 outside, QA observed ABF welder Eric Sparks perform fillet welding on 2 1/4" wide x 3/8" thick diverter bar to top deck plate. The welder was welding in 2F (horizontal position) using 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. The three feet long diverter bar was fillet welded both sides of the bar to the top deck plate was not originally installed from ZPMC, China to give room for the splice welding of the top deck at this location. During welding, ABF Quality Control (QC) Mike Johnson was noted monitoring the welding parameters of the welder. At the end of the shift, 6mm fillet welding on both sides of the bar was completed.

At OBG 6E/7E top deck plate 'A1' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 perform CJP groove third time welding repair. The welder was observed welding in the 1G (flat) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding Caltrans approved procedure ABF-WPS-D15-1000-Revision 2 and ABF/JV Request for Weld Repair number 201010-001. The repair excavation along the butt joint was having dimensions of 120mm long x 20mm wide X 22mm deep and across the butt joint was having dimensions of 70mm long x 30mm wide x 24mm deep was preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Steven Mc Connell was noted monitoring the welder. Prior welding, ABF QC Steven Mc Connell was also observed performing Magnetic Particle Testing (MT) using Parker Contour Probe with red magnetic powder as detecting media on the repair excavation. There were no significant defects noted during the test. At the end of the shift, repair welding was still continuing and should continue tomorrow.

At OBG 5W/6W side plates 'C' and 'E' inside, this QA performed 10% MT verification on the welded splice butt joint. QA was using Parker Contour Probe Model DA 400 with serial number 16989 electromagnetic yoke with red magnetic powder as detecting media. QA found no significant indications during the verification. Please see TL-6028 report for more information.

At 6E/7E side plate 'C' outside, ABF welders Rory Hogan and Jeremy Dolman were observed 4G Flux Cored Arc Welding (FCAW-G) back welding fill pass on splice butt joint.



At OBG 6W/7W side plate 'E' inside, ABF welders Songtao, Huang and Huang Jin Quan were observed performing 4G Flux Cored Arc Welding (FCAW-G) welding fill pass on splice butt joint.

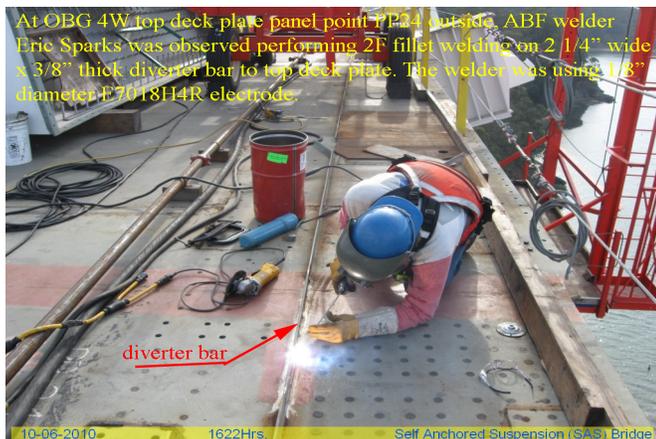


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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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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) 813-3677, 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