

**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-018217**Date Inspected:** 18-Nov-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>	William Sherwood and John Pagliuca			<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 6E/7E bottom plate 'D' inside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 continuing to perform CJP groove welding repair. The welder was observed welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 5/32" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The boat shape repair excavation was located at Y-dimension 0mm and has a 1040mm long x 20mm wide x 15mm deep excavation profile. The first time repair excavation was 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. During the shift repair welding at above mentioned location was completed.

At OBG 6E/7E edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Jorge Lopez ID #6149 perform CJP groove welding repair. The welder was observed welding the third time repair in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The boat shape repair excavation was located at Y-dimension 1120mm and has a 120mm long x 33mm wide x 11mm deep excavation profile. The third time repair excavation was preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Bonifacio Daquinag was noted monitoring the welder. At the end of the shift, repair welding at above mentioned location was completed.

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At OBG 7W/8W side plate 'E' inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 has completed the weld cover at location 3640mm to 7900mm. After its completion, the welder has moved to new location 1000mm to 3640mm and performed root pass welding using SMAW. The root was also completed and the welder started filling the weld joint using FCAW-G. 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 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 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.

At 7W/8W top deck plate A2, QA randomly observed excavation of welding repair number four. The fourth time repair excavation was located at Y-dimension 4880mm and has 350mm long x 25mm wide x 15mm deep profile. After the excavation was completed, ABF QC Steven Mc Connell performed the Magnetic Particle Testing prior to start welding. During the test, there was no defect noted except the indication between the top deck plate and backing bar. The welder Kit Watlai proceeded with the repair using SMAW with 1/8" diameter E7018H4R electrode and during welding the welder made a burn through into the deck plate. The welder has stopped the repair welding due to the burn through. QA made verification on the condition of the plate underneath and after seeing the burn through there was like a linear indication that ran through the edge of the backing bar. ABF Superintendent Dan Ieraci also looked at the burn through underneath and after looking he decided to hold back the repair and to consult with QC Manager Mr. Jim Bowers prior to continue.

At OBG 8W/9W bottom plate 'D' outside, QA randomly observed ABF welder Rick Clayborn perform fillet welding of temporary attachment to the bottom plate as an aid in installing the backing bar of the splice butt joint. The welder was noted welding in 4F (overhead) position utilizing SMAW with 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. During welding, ABF QC William Sherwood was noted monitoring the welding parameters of the welder. The welder has completed welding all the temporary attachments and after its completion Rick Clayborn installed the backing bar in place.



At OBG 6E/7E edge plate 'E' inside, ABF welder Jorge Lopez was observed performing/welding third time repair on the welded splice butt joint. The welder was using Shielded Metal Arc Welding with 1/8" diameter E7018H4R electrode.



At OBG 7W/8W top deck plate A2 outside, excavation profile of 350mm long x 25mm wide x 15mm deep at Y-dimension A2 4850mm after excavation. MT was performed prior welding.

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## Summary of Conversations:

No significant conversation 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