

**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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015496**Date Inspected:** 07-Jul-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>	Jesse Cayabyab and Bernie Docena			<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 L4E/L5E side plate 'E2' (7500mm to 9655mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding cover 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-D15-3042A-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. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. Before noon time, welding of the cover weld reinforcement was completed and the welder was noted moving to the other location (9655mm to 10555mm) of the same plate. The welder was noted welding the last location of the splice using SMAW with 1/8" diameter E7018H4R electrode where the Bug-o motorized track cannot reach. The welder was also implementing Caltrans approved WPS, ABF-WPS-D15-1040B. During the shift, the welder has also completed welding the last location of the splice.

At OBG L3E/L4E bottom plate 'D' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu perform CJP groove welding repair. The welder was observed welding in the 4G (overhead) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure

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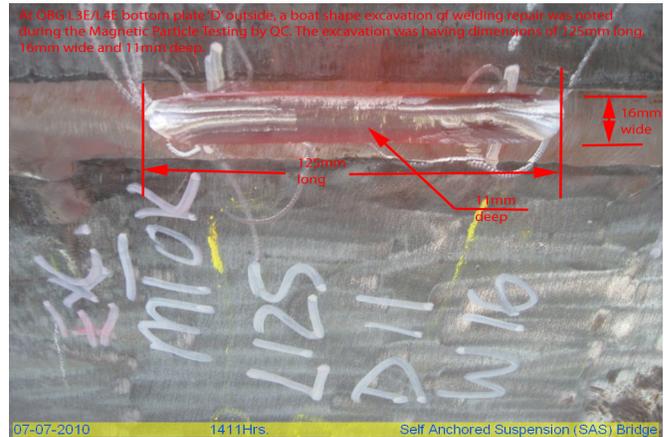
# WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

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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 William Sherwood was noted monitoring the welder. Prior welding, ABF QC William Sherwood was also observed performing Magnetic Particle Testing (MT) on the repair excavations. During the shift, the welder has completed three welding repairs outside and was noted working on the 4th repair at the end of the shift. QC also informed QA that the welder has completed three repairs from the inside of the same plate earlier during the shift.



## Summary of Conversations:

1. At L2W/L3W side plate 'C' inside, ABF QC Jesse Cayabyab requested this QA to perform final VT on the fully welded splice butt joint since QC have already completed their VT, MT and UT. QA obliged to their request and performed VT. During the inspection, QA noted that the weld cover surface profile appear in compliance with the code requirements except gouges on the base metal near the weld on five locations where they need to be fixed. This finding was relayed to QC who informed QA that they will ask ABF to fix those gouges.

2. At OBG L5E/L6E side plate 'E' inside, ABF QC Bernie Docena informed this QA that the welder will be moving in this splice location after completing L4E/L5E side plate 'E'. QC also mentioned using the same preheat temperature of 150 degrees Fahrenheit since the plate thickness is only 16mm.

## 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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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

**Reviewed By:** Levell, Bill

QA Reviewer

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