

**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-015959**Date Inspected:** 30-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 John Pagliero			<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 L5E/L6E side plate 'E' (5940mm to 8110mm) inside, QA observed ABF/JV qualified welder Sungtao, Huang ID # 3794 completed the weld cover reinforcement at this location and has moved to new location (150mm to 5940mm) of the same splice. The welder was noted manually welded the root pass. After welding the root pass, the welder went outside and removed the fitting gear that was temporarily holding the backing bar. This was done so the Miller Proheat 35 Induction Heating System blanket could be in direct contact with the plate being welded. The welder went back inside and started lining up the Bug-o track for the Flux Cored Arc Welding (FCAW-G). At the end of the shift, the welder was still lining up his Bug-o track and was not able to put more weld into the splice.

At OBG 4E/5E edge plate 'B' outside, QA randomly observed ABF welder Jeremy Dolman perform vertical welding on the splice butt joint. The welder was using Shielded Metal Arc Welding (SMAW) with 1/8" diameter and E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded had a single V-groove butt joint with backing bar. The approximately 3" long being welded at the bottom of the joint was left unfinished previously due to limited access/unavailability of the platform. The access platform is now available after welding the side plate of the same OBG. ABF Quality Control (QC) Jesse Cayabyab was noted monitoring the welding parameters of the welder. During the shift, fill pass welding of the splice joint at location mentioned above was not completed and should

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continue tomorrow.

At OBG 5E/6E edge plate 'F' inside, QA observed ABF welder Jin Pei Wang perform grinding on the groove of the gouged backing bar removal. During the shift, the welder has completed grinding the groove of the backing bar removal and has moved to edge plate 'B' of the same OBG. The welder performed the same task of grinding the groove of the gouged backing bar removal until the end of the shift.

At OBG 4E/5E side plate 'C' outside, ABF personnel was seen grinding the indications noted during the Magnetic Particle Testing performed by QC. The ground groove surface of the joint was rejected by ABF QC Jesse Cayabyab due to presence of indications.



At OBG 5E/6E edge plate 'F' inside, ABF welder Jin Pei Wang was noted grinding the groove of the gouged backing bar removal of the splice butt joint using a die grinder.



## Summary of Conversations:

1. At OBG 4E/5E side plate 'C' outside, ABF QC Jesse Cayabyab informed this QA that he performed the Magnetic Particle Testing (MT) on the groove of the ground and gouged surface of the backing bar removal of the splice joint. According to QC, he still found presence of slag and that he rejected the ground surface backing bar removal.

2. At OBG 4E/5E edge plate 'B' outside, ABF QC Jesse Cayabyab also informed this QA that welder Jeremy Dolman was welding the open section of the splice joint located at the bottom. This QA went to the area where the welding was ongoing. Since there was a concern raised by fellow QA Craig Hager on how to weld the bottom of the splice with an opening, QA took a closer look on how ABF will proceed. It was noted during the time of welding that the welder cleaned up and transitioned the surface of the area to be welded, put a run off tab to the bottom and installed a backing bar from the inside. Previously, this has been the way ABF was doing and it is the same thing as what they are doing now.

At OBG 4E/5E edge plate 'B' inside, a backing bar was attached to the bottom of the splice joint where welding was not completed due to limited access. The splice butt joint is now being welded from the outside using Shielded Metal Arc Welding.



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## 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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