

**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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027745**Date Inspected:** 11-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Steve Jensen 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>	SAS Tower		

**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 13W-W2.5 Y=3000mm to Y=5030mm top deck drop-in plate inside, QA randomly observed ABF certified welder Rory Hogan continuing to perform 4G (overhead position) Shielded Metal Arc Welding (SMAW) back welding cover pass on the CJP SPCM splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-CU. The joint being welded had a single V-groove butt joint with copper plate backing bar that was originally welded from the top using a combination of SMAW and Submerged Arc Welding (SAW) then removed the copper backing plate using carbon air arc gouging and ground smooth. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the working welding parameters of 130 amperes on the 3.2mm diameter E7018H4R electrode. The workmanship and appearance of the completed cover pass deemed satisfactory. At the end of the shift, cover pass welding on area mentioned above was partially completed.

At OBG 13E-PP122.5-E2.8-BF2 drop-in floor beam, QA randomly observed ABF certified welder Steve Davies perform 2G (horizontal position) Shielded Metal Arc Welding (SMAW) welding fill pass on the CJP skewed flange splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R on the fill pass implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1030 Rev. 0. The joint being welded has a skewed angle butt joint without backing bar that will be back gouged then back welded. The plates were

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preheated to more than 150 degree Fahrenheit using propylene gas torch prior welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the welding working parameter of 129 amperes on the 3.2 diameter E7018H4R electrode. The workmanship and appearance of the completed fill pass deemed satisfactory. During the shift, fill pass welding on the flange butt joint was still continuing and should remain tomorrow.

FW Spencer:

At Tower elevation 53 location Panel Point PP42, this QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the field butt joint of 2" and 3" diameter pipe to weld neck flange domestic water and compressed air lines respectively. The system lines being welded are field weld joints along the main line that branches out for the tower supply. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propane gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. During the shift, the welder has completed the welding of the splice butt joints at the following;

Line Service Line/Pipe Size Panel Point Location Joint Designation

1 Domestic Water 2 "	42 Tower	6/2/42/T53
2 Compressed Air 3 "	42 Tower	7/3/42/T53

After the completion of the pipe to weld neck flange CJP welding, the welder has moved to OBG 13W-PP118-W5 and performed fit up and tack welding of PS5 pipe support .This QA randomly observed the installation and fit-up of the PS5 pipe support being welded to the previously welded 3" X 3" angular on top of the deck plate. The tack welding and field welding was performed by same welder Damian Llanos utilizing a 3.2 mm electrode implementing Caltrans approved Welding Procedure Specification (WPS) identified as Fillet Murex. The ¼" fillet welding was performed in 2F/3F positions on two 3" X 3" angular to structural tee WT 6. ABF QC Steve Jensen was noted on site monitoring the welder and the workmanship of welding being performed. At the end of the shift, one PS5 support with two angular welded to the WT6 was completed. The completed horizontal and vertical fillet welds were designated as W120611-03 and W120611-04.



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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 Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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

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