DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027211
Date Inspected: 14-Feb-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name: Steve Jensen

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

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 the Tower Base, ABF welder Wai Kitlai was observed performing tack welding of backing bar for the Partial Joint Penetration (PJP) of the 13 meters diaphragm plates to tower shear plates. The welder was observed welding in the 2F (horizontal) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1050A. The welder was noted preheating the plates to more than 150 degrees Fahrenheit using propane gas torch. The tack welding of the backing bar was monitored by ABF QC Steve Jensen. The tack welding of the backing bar mostly took place where the root gap was wide. The areas where they have minimal root gap, the diaphragm plates were directly tack welded to the shear plate or to the tower shaft.

At Tower Base 13 meters diaphragm weld joint number 114, ABF welder Wai Kitlai was observed perform 1G Shielded Metal Arc Welding (SMAW) welding root pass on the 45mm thick center diaphragm plate to 60mm shear plate Partial Joint Penetration (PJP) T-joint. The 45mm diaphragm has a 45 degrees bevel and has an average root opening of 7mm with backing bar. The alignment of the diaphragm plate with respect to the top of the shear plate was measured 0mm minimum to 5mm maximum. The welder was noted using 3/16” diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1050A with measured working current of 227 amps. Prior welding, the welder has preheated the plates to required preheat temperature of more than 150 degrees Fahrenheit using a propylene gas torch. During welding, ABF QC Steve Jensen was noted monitoring the

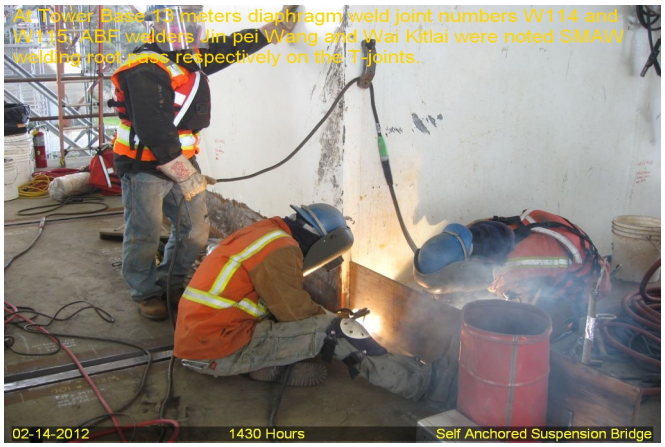
welder. At the end of the shift, root pass SMAW welding on the PJP T-joint was completed.

At Tower Base 13 meters diaphragm weld joint number 115, ABF welder Jin Pei Wang was observed perform 1G Shielded Metal Arc Welding (SMAW) welding root pass on the 45mm thick North diaphragm plate to 60mm shear plate Partial Joint Penetration (PJP) T-joint. The 45mm diaphragm has a 45 degrees bevel and has an average root opening of 9mm with backing bar. The alignment of the diaphragm plate with respect to the top of the shear plate was measured 0mm minimum to 5mm maximum. The welder was noted using 5/32” diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1050A with measured working current of 189 amps. Prior welding, the welder has preheated the plates to required preheat temperature of more than 150 degrees Fahrenheit using a propylene gas torch. During welding, ABF QC Steve Jensen was noted monitoring the welder. At the end of the shift, root pass SMAW welding on the PJP T-joint was completed.

FW Spencer:

At OBG 8W location Panel Point PP65 to PP67 grid line W2, 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 splice butt joint of 2.5" and 4” domestic water and compressed air lines respectively. The system lines being welded are field weld joints along the grid line of W2 of the OBG. 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. At the end of 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 ½”	67	Northwest	35/2.5/67/NW
2	Compressed Air 4”	67	Northwest	35/4/67/NW
3	Domestic Water 2 ½”	65	Northwest	34/2.5/65/NW
4	Compressed Air 4”	65	Northwest	34/4/65/NW



WELDING INSPECTION REPORT

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Summary of Conversations:

No significant conversation ocurred 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.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer