

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-020904**Date Inspected:** 22-Feb-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Pat Swain and William Sherwood			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	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 9E/10E side plate 'E2' (2638mm to 5278mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt joint. The welder was observed perform 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 heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. During the shift, the Bug-o remote controller broke down and the welder tried to fix it but he was not able to and so the number of passes welded was minimal.

QA randomly observed ABF/JV qualified welder Rory Hogan continuing to perform CJP groove (splice) back welding cover pass on Orthotropic Box Girder (OBG) 8W/9W bottom plate 'D1' outside. The welder was observed back welding in the 4G (overhead) 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-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior welding and by moving the blanket to the side of the weld being welded during welding. The vicinity was also properly protected from wind and other climatic conditions. ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. At the end of the shift, cover pass welding was still continuing and should remain tomorrow.

At OBG 7W/8W top deck plate 'A1' outside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform CJP repair welding. The welder was noted welding in 1G (flat) position utilizing SMAW with 5/32" diameter E7018H4R electrode implementing new Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1003 Repair. The new repair procedure includes putting in place a copper backing alongside the typical steel backing bar when the repair excavation is expected to occur at the edge of the steel backing. The sixth time welding repair located at Y=5mm and having dimension profile of 100mm long x 26mm wide x 26mm deep was excavated to a boat shape profile and was tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC Pat Swain was noted monitoring the welder and his welding parameters. QA noted parameter during welding was 180 amperes which appears in compliance to the WPS.

At OBG 9W/10W edge plate 'F1' inside/outside, QA randomly observed ABF/JV qualified welder Fred Kaddu perform CJP repair welding. The welder was noted welding in 3G (vertical) position utilizing SMAW with 1/8" diameter E7018H4R electrode implementing new Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repair. The first time welding repairs were excavated to a boat shape profile and were tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC William Sherwood was noted monitoring the welder and his welding parameters. QA noted parameter during welding was 130 amperes which appears in compliance to the WPS. The locations of the repairs were noted below;

Location	Y-dimension	Length	Width	Depth	Remarks
1.	920mm	80mm	20mm	11mm	Inside - Completed
2.	380mm	90mm	15mm	6mm	Outside - Completed



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

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.

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