

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-026708**Date Inspected:** 14-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Bernie Docena and John Pagliero			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:	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 OBG 13E/14E bottom plate 'D1' (Y=3100mm to Y=6000mm) inside, QA randomly observed ABF certified welder James Zhen ID #6001 continuing to perform 1G (flat position) Submerged Arc Welding (SAW) welding cover pass on the unequal plate thickness (35mm/30mm) Complete Joint Penetration (CJP) splice butt joint. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The Seismic Performance Critical Member (SPCM) joint being welded has a single V-groove butt joint with backing bar that will be removed then back welded. The plates were preheated to more than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. Welding parameters were monitored by ABF/QC Bernie Docena. Measured welding parameters during welding were 550 amperes, 32.6 volts and 435mm per minute travel speed with calculated heat input of 2.47 Kjoules per mm. QA noted the welding parameters, the workmanship and appearance of the completed fill/cover pass deemed satisfactory. During the shift, cover pass welding was completed and the welder has held the preheat of more than 200°F for three more hours after welding as required.

At OBG 13E/14E vertical plate 'I' inside, QA randomly observed ABF/JV qualified welder Xiao Jian Wan continuing to perform fill pass welding on Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Flux Cored Arc Welding (FCAW-G) with

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E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040B-3. The 25mm equal thickness Seismic Performance Critical Member (SPCM) joint being welded has a single V-groove butt joint with backing bar that will be removed and back gouged then back welded. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. Measured parameters during welding were 260 amperes, 23.7 volts and travel speed of 180mm per minute with calculated heat input of 2.1 Kjoules/mm which deemed in compliance to the contract requirements. At the end of the shift, fill pass FCAW-G welding was still continuing and should remain tomorrow. The welder has held the preheat of more than 200°F for three more hours after welding as required.

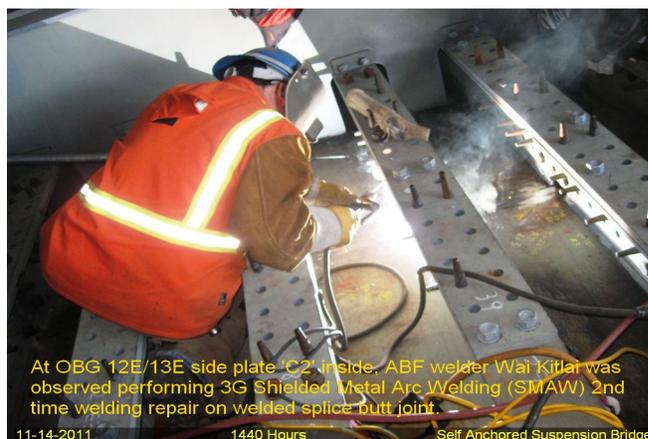
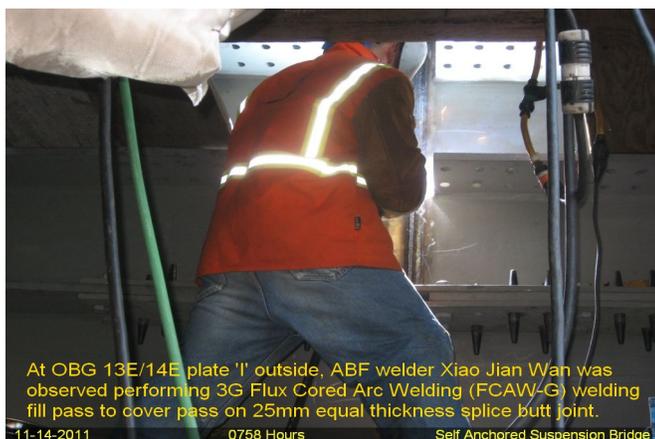
At OBG 12E/13E side plate 'C' inside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform CJP groove welding second time repair. The welder was observed welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The repair excavation was preheated to more than 150 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Prior welding, John Pagliero was also observed performing Magnetic Particle Testing (MT) on the repair excavations. There were no significant defects noted during the test. The following second time repairs (R2) were noted excavated and welded;

Location Y-dimension Length Width Depth Remarks

12E/13E side plate 'C1.2' R2	1360mm	100mm	15mm	12mm	welding completed
12E/13E side plate 'C2' R2	700mm	70mm	20mm	8mm	welding completed

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the Complete Joint Penetration (CJP) welding of three (3) lifting lug infill plate to deck plate butt joints. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. OBG 14E-PP128-E3-#1, 2 and 3 lifting lug hole - QA VT/MT verified



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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.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer