

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-026737**Date Inspected:** 19-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Bernie Docena and Fred Von Hoff			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.

QA randomly observed ABF/JV qualified welder James Zhen continuing to perform Complete Joint Penetration (CJP) groove back welding fill pass on Orthotropic Box Girder (OBG) 13E/14E bottom plate 'D1' (0mm to 9900mm) outside. The welder was observed 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 and was ground smooth. The gouged and ground Seismic Performance Critical Member (SPCM) splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was continuously preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blankets located on top of the plate prior welding and maintained by moving the heater blanket at the side of the plate being welded during welding. The vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. Measured welding parameters during welding were 265 amperes, 24.7 volts and 180mm travel speed. Calculated heat input was 2.2 Kjoules/mm which appears in compliance to the contract requirements. At the end of the shift, FCAW-G fill pass welding was still continuing and should remain tomorrow.

At OBG 13E/14E vertical plate 'I' outside, QA randomly observed ABF personnel Wai Kitlai and Han Wen Yu

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perform grinding on the gouged groove of the backing bar removal. After the completion of the grinding, the welder called ABF QC William Sherwood to perform the VT and MT on the ground surface of the backing bar removal and its adjacent base metal. This QA has observed ABF QC William Sherwood perform Magnetic Particle Testing (MT) on the gouged and ground surface of the backing bar removal. QC has found no significant indications during the test. The VT/MT was accepted by QC and the welders have prepped the welding machine and accessories as well as the cover protection of the welding area in preparation for the vertical FCAW-G back welding on Monday.

At OBG 14E-PP125-E3-# 1 and 2, lifting lug hole infill plates to top deck plate outside, ABF welder Salvador Sandoval was observed continuing to perform 1G SMAW welding fill pass on the infill plate to top deck plate butt joint. The welder was noted using 3/16" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1050A-CU for the Seismic Performance Critical Member (SPCM) butt joint. During welding, ABF QC Bernie Docena was noted monitoring the welder's welding parameters with measured working current of 250 amperes on the 3/16" electrode. The welder was noted preheating the plates to more than 150°F using propylene gas torch prior welding. During the shift, cover pass welding on the top side location of the two butt joints was completed and the welder has started fit up on lifting lug hole #3 of the same location.

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) vent hole infill plates to top 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.

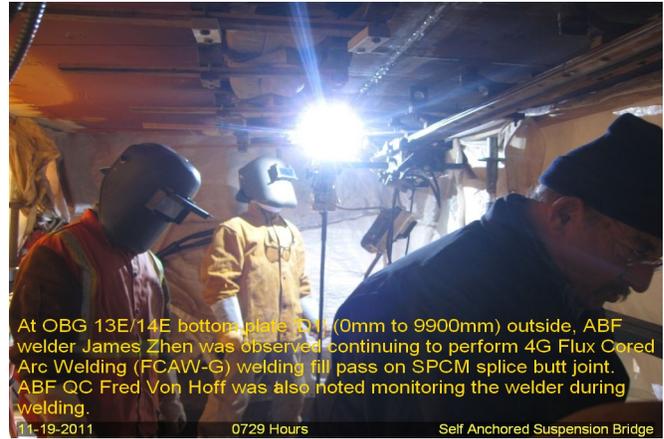
1. OBG 14W-PP126.7-W2.7 vent holes infill plate to deck plate outside - QA VT/MT verified
2. OBG 14W-PP126.7-W2.9 vent holes infill plate to deck plate outside - QA VT/MT verified
3. OBG 14W-PP126.7-W3.7 vent holes infill plate to deck plate outside - QA VT/MT verified

This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.



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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