

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 #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012940**Date Inspected:** 06-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Mike Johnson and Jim Cunningham			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 L2E/L3E plate 'E1' (2900 to 5000mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID #3794 and Mitch Sittinger ID #0315 perform CJP groove (splice) welding fill to cover pass. The welder was observed welding in the 3G (vertical) position utilizing an automatic 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-D15-3042A-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 degree Fahrenheit using electric resistance heating bands prior welding. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. QA performed parameter readings during welding with the following results; 230 amperes, 23.4 volts and 260mm per minute travel speed which were deemed acceptable to contract specifications. The ABF welders have completed welding the cover of the splice butt joint in this mentioned area and was noted visually inspected by ABF QC Bernie Docena.

After completing the weld just mentioned above, the welders moved to the top portion of the splice butt joint and manually welded around 200mm long of the weld joint where the Bug-o machine cannot reach. QA noted that the welders have used same process as also mentioned above.

At OBG L3E/L4E plate 'C2' inside (600mm long), ABF welder Chun Fai Tsui (ID #3426) was noted welding in

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

vertical (3G) position using Shielded Metal Arc Welding (SMAW). QA randomly observed the welder perform Complete Joint Penetration (CJP) groove (splice) welding root to fill pass. The welder was using E7018H4R, 1/8” diameter electrode and implementing Caltrans approved ABF-WPS-D15-1040B. Welding parameter measured during welding was 125 amperes which was deemed acceptable to contract requirements. During the shift, QA verified the qualification of the welder thru the welders list and was found out that he was not listed as one of the qualified welder for SMAW. QA asked the QC but said the welder took the welder’s test two weeks ago and passed the test. QC also mentioned that the welder’s qualification paper was already submitted to Caltrans.

At OBG L3E/L4E plate ‘E2’ inside (600mm long), another ABF welder James Zhen was noted welding in vertical (3G) position using Shielded Metal Arc Welding (SMAW). QA randomly observed the welder perform Complete Joint Penetration (CJP) groove (splice) welding root to fill pass. The welder was using E7018H4R, 1/8” diameter electrode and implementing Caltrans approved ABF-WPS-D15-1040B. Welding parameter measured during the SMAW welding was 130 amperes. After doing the root pass with some fill passes, QA noted the welder switched his welding process from SMAW to FCAW-G. During the FCAW-G welding, the welder was noted utilizing a manual 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-D15-3042A-1. Welding parameters noted during this process were 244 amperes and 22.8 voltages which were deemed acceptable to contract requirements.

Due to the awkward position of the splice butt joints (both at the bottom corner of plate ‘D’), the welders were having difficulty performing their task. At the end of the shift, both welders were still continuing welding and were not able to complete the welds.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

As stated above.

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 Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer