

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-027568**Date Inspected:** 08-May-2012**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:	As noted below		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	Yes	No	N/A
Verified Joint Fit-up:	Yes	No	N/A
Approved WPS:	Yes	No	N/A
Delayed / Cancelled:	Yes	No	N/A
Component:	SAS OBG		

Bridge No: 34-0006**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

13W-W2.8-y+100mm -12500mm (Exterior)

This QA Inspector randomly observed ABF welder Steve Davis (ID 7889) pre-heat the Complete Joint Penetration (CJP) joint along 13W-W2.8 at y+12000mm and ABF welder Khit Lounechaney (ID 4985) pre-heat the joint along y+100mm. QC Inspector Sal Merino verified the correct temperature as per the approved WPS and afterward's verified that the welding parameters (Amps and Travel Speed) were in accordance with ABF-WPS-D1. 5-1040C-CU using E7018 4.0mm diameter electrodes drawing amperage of 180 for Mr. Davis and 226 amperes with 4.8mm electrodes for Mr. Lounechaney. This QA Inspector observed the welders performing the Shielded Metal Arc Welding (SMAW) process in the 1G flat positions continuing root and fill welding at y+12000mm to y+6000mm and y+100mm to y+6000mm respectively. The welders were observed cleaning the start/stop edges of the work utilizing small disc grinders to smooth and blend the transitions and compressed air to clear the debris. On a subsequent observation, the welders were noted as continuing the production welding and between passes the QC Inspector verified the welding parameters and surface temperatures utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. This QA Inspector noted that the electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. At

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

approximately the middle of the shift, this QA Inspector observed that Mr. Davis had completed approximately 10mm of fill from y+100mm to y+600mm and had relocated to 13W-W2.0 line at y+100mm. The welder was observed pre-heating the joint and upon verification by QC, commenced the SMAW process in the 1G flat position. On a subsequent observation, the welders were observed continuing the production root and fill welding and this QA Inspector noted that no issues had arisen. This QA Inspector made subsequent observations to monitor quality and noted that the work at 13W-W2.8 and 13W-W2.0 was in progress and appeared to be in general conformance with the contract documents.

13E-PP121.6-y+2175mm (Exterior)

This QA Inspector observed ABF welder Mike Jimenez (ID 4671) performing the root and fill pass weld operation per the SMAW process in the 1G flat position on the (top side) of the Deck Plate Drop-in Section on Segment 13W along PP121.6 at y+2175mm, ABF welder Edward Brown (ID 9331) and ABF welder Jacob Stafford (ID 8020) performing the root and fill pass weld operation per the SMAW process in the 1G flat position on the (top side) of the Deck Plate Drop-in Section on Segment 13E along A.0 at y+1400mm, and ABF welder Salvador Sandoval (ID 2202) performing SMAW in the 1G flat position at 13E-A2.1. This QA Inspector observed QC Inspector William Sherwood verify prior to the start of the root and fill pass weld operation, that the minimum preheat temperature as per the approved WPS was established; and afterward's verified that the welding parameters (Amps and Travel Speed) were in accordance with WPS D1.5-1040C-CU Revision 0 using E7018 3.2mm diameter electrodes. This QA Inspector noted that for the three (3) welders that the 3.2mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. This QA Inspector observed ABF welder Kenneth Chappell (ID 3833) performing Submerged Arc Welding (SAW) utilizing a Lincoln track mounted wire feeder at 13E-E2.3. It was also noted that the remote oven for the ESAB EN 760 Flux was in the on position with the dial set at 250° F. ABF welding Superintendent Dan Ieraci provided a remote temperature gauge to verify the flux temperature inside of the oven. This QA Inspector verified that the F7A2-EM12KH8 electrode spool was compliant with ABF-WPS-D1.5-4042B-Revision 1. QC Inspector William Sherwood measured the parameters for amperage, volts, travel speed and the heat input as the welder adjusted the controls on the Lincoln track mounted wire feeder. This QA Inspector made subsequent observations to monitor quality and noted that the production work by the welders was in progress and appeared to be in general conformance with the contract documents.

Summary of Conversations:

This QA Inspector had a conversation with Structural Materials Representative (SMR) Nina Choy on the status of the Drop In Panels.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



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 Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

Inspected By: Frey,Doug

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer