

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 #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-013964**Date Inspected:** 11-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** 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 L4E/L5E plate A1 to A5, two certified ABF welders Bryce Howell ID #5591 and Jordan Hazelaar (ID #2135) were noted performing flat (1G) Submerged Arc Welding (SAW). The welders were 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 two welders were welding simultaneously in two separate locations (A1 to A3 and A3 to A5) with two separate welding machines using a track mounted Lincoln Electric "Cruiser Tractor" wire feeder. The plates were preheated to >150 degree F using two Miller Proheat 35 Induction Heating System located at the other side of the plate prior/during welding.

Welding parameters were monitored by two separate ABF/QC named Bonifacio Daquinag (for Bryce Howell) and Jim Cunningham (for Jordan Hazelaar). Parameters measured by QA during welding were 580 amperes, 32.2 volts and 390mm per minute travel speed and 560 amperes, 32.0 volts and 380mm per minute travel speed respectively for the two welders. QA noted the welding parameters, the workmanship and appearance of the completed fill and cover passes satisfactory and were deemed acceptable to contract requirements.

After welding the root pass, ABF QC Bonifacio Daquinag and Jim Cunningham were observed performing 100% Magnetic Particle Testing (MT) on the root. QC Bonifacio Daquinag was noted using a Parker Contour Probe electromagnetic yoke while QC Jim Cunningham was noted using a Magnaflux electromagnetic yoke. Both QC were noted using the same red magnetic powder as detecting media. During the test, there was no significant

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indications noted by the QC and so the welders resumed filling more passes into the weld splice butt joint.

At OBG L3E/L4E side plates 'C' and 'E' and bottom plate 'D' inside, this QA performed a 10% Magnetic Particle Testing (MT) using a Parker Contour Probe electromagnetic yoke with corresponding red magnetic powder as detecting media to the splice butt joints. The surface profiles of the joints were as welded and cleaned with wire brush. There were no significant defects noted during the test.



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