

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016831**Date Inspected:** 18-Sep-2010**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:** As noted in Summary**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:**

This Quality Assurance Inspector (QAI), was present at the Self Anchored Suspension (SAS) job site. The following items were observed; see individual item numbers in the body of this report for further details.

Segment 1E

1. Top Plate A lifting lug insert welding and Magnetic Particle Testing of interior in process.

Field Splice 6E/7E

2, Edge Plate B, welding of interior face in process.

3, Side Plate E, welding of interior face in process.

4, Edge Plate F, back-gouging interior face in process.

1). OBG Segment 1E Top Plate A lifting lug inserts.

The QAI periodically observed ABF approved welder Hua Qiang Hwang, ID-2930 and Jin Pei Wang, ID-7299 welding lifting lug deck penetration inserts 1 and 3 on line E4 at panel point 8.5 per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. AB/F QC Inspector John Pagliero was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1110B-Rev 1. Work was completed at this location during the QA Inspectors shift and the work appeared to be in general compliance with contract documents. The welders then proceeded to start welding the deck penetration inserts on line E4 at panel point 11.

The QAI periodically observed QC Inspector Tom Sherwood performing Magnetic Particle Testing (MT) of the

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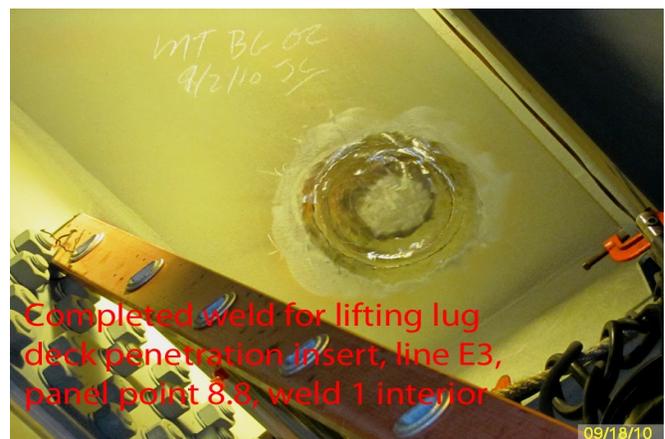
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interior face of lifting lug deck penetration inserts on line E3 at panel points 8.8 and 11 numbers 1 through 4. The QAI observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. Mr. Sherwood reported that no relevant indications were observed and the welds were visually acceptable. The QA inspector performed MT verification on insert on line E3, panel point 11, number 1. No relevant indications were observed. See Magnetic Particle Test Report (TL-6028) for details.

2. The QAI observed the Shielded Metal Arc Welding (SMAW) process of the of the complete joint penetration (CJP) groove weld edge plate field splice 6E/7E-B. The welding was performed from the interior face by the welding operator James Zhen, ID-3794 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev. 1 in the vertical up (3G) welding position. The welding was observed by Quality Control (QC) Inspector John Pagliero. The minimum preheat temperature of 60 degrees Celsius and maximum interpass temperature of 230 degrees Celsius was verified utilizing Tempilstik temperature indicators. The SMAW fill pass average amperage of 130 DC at the welding lead was verified to be within the WPS parameter ranges of 90 to 160 DC amps by the QA inspector. Work was not completed at this location during the QA Inspectors shift and the work appeared to be in general compliance with contract documents.

3. The QAI observed the automated Flux Cored Arc Welding (FCAW-G) process of the of the complete joint penetration (CJP) groove weld side plate field splice 6E/7E-E. The welding was performed from the interior face by the welding operator Song tao Huang ID-3794 and Jin Quan Huang, ID-9340 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1 Rev. 0 in the vertical up (3G) welding position. The welding was observed by Quality Control (QC) Inspector John Pagliero. The minimum preheat temperature of 60 degrees Celsius and maximum interpass temperature of 230 degrees Celsius was verified utilizing Tempilstik temperature indicators. The FCAW-G fill pass average amperage of 250 DC, voltage of 24.3 DC at the welding lead and average travel speed of 300 millimeters per minute were verified to be within the WPS parameter ranges of 214 to 267 DC amps, 20.9 to 24.4 DC volts and travel speed of 188 to 455 millimeters per minute by the QA inspector. Work was not completed at this location during the QA Inspectors shift and the work appeared to be in general compliance with contract documents.

4. The QA inspector periodically observed the removal of the backing bar and back gouge of complete joint penetration (CJP) groove weld edge plate field splice 6E/7E-F. The ABF welding personnel performed the back gouge utilizing a manual air-carbon arc system. The work was not completed on this date appears to be in general compliance with contract documents.



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Summary of Conversations:

General conversations with QC personnel regarding welding locations and schedule.

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 Mohammad Fatemi, (916)813-3677, who represents the Office of Structural Materials for your project.

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| Inspected By: | Lanz,Joe | Quality Assurance Inspector |
| Reviewed By: | Levell,Bill | QA Reviewer |
