

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-019038**Date Inspected:** 30-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**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 Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

- A). Lifting Lug Holes
- B). Field Splice E9/E10
- C). QC Inspection Request
- D). Miscellaneous Tasks

A). Lifting Lug Hole

The QAI observed the welder, Darcel Jackson ID-9967, perform the Complete Joint Penetration (CJP) groove welding of the Lifting Lug Hole (LLH) identified as WN: 2W-PP15-W3-Weld No. 4 located along the grid line W3 of the OBG identified as W1. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.8 mm, E7018 H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1070A, Rev. 1. The WPS was also utilized by the QC inspector, Mike Johnson, as a reference to monitor the welding and to verify the welding parameters. The QC verification of the welding parameters was observed by the QAI and recorded as 266 amps and the minimum preheat temperature of 65 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was also verified by the QAI. The welding was performed in the flat (1G) position with the weld joint in an approximately horizontal plane and the weld metal deposited from the upper side. The CJP welding was not completed during this shift and appeared to comply with contract specifications.

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The QAI also observed the welder, Mike Jiminez ID-4671, perform the Complete Joint Penetration (CJP) groove welding of the Lifting Lug Hole (LLH) identified as WN: 1W-PP11-W4-Weld No's. 2, 3 and 4 located along the grid line W4 of the OBG identified as W1. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.8 mm, E7018 H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1070A, Rev. 1. The WPS was also utilized by the QC inspector, Mike Johnson, as a reference to monitor the welding and to verify the welding parameters. The QC verification of the welding parameters was observed by the QAI and recorded as 282 amps and the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was also verified by the QCI. The welding conducted during this shift was performed in the flat (1G) position with the work in an approximately horizontal plane and the weld metal deposited from the upper side of the weld joint. The welding was not completed during this shift and appeared to be in compliance with the contract specifications.

Later in the shift, the QAI observed the repair welding on the Lifting Lug Holes (LLG) identified as WN: 5E-PP31-E3-W1, W2, W3 and W4. The repair welding was performed by the welder Salvador Sandoval ID-2202 utilizing the Shielded Metal Arc Welding (SMAW) and the E71018 H4R 3.2 mm electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repair, Rev. 0. The WPS was also utilized by the QC inspector, Steve McConnell, to verify the welding parameters of 129 amps and to monitor the welding and the surface temperatures. The QAI also observed the QC inspector verify and monitor the minimum preheat temperature of 40 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The repair welding was completed during this shift and appeared to comply with the contract documents.

B). Field Splice E9/E10

The QAI met with Robert Mertz and Structural Materials Representative (SMR) Nicolai Hzass to observe and review the possible planar alignment issue regarding the side plate field splice identified as WN: 9E-10E-E1 and E2. At this time it was determined because of no access to the exterior side of the field splice, no scaffolding, for the QAI to perform, at random, a dimensional surveillance of the planar alignment and to monitor the field fit-up at a later date. The QAI performed the dimensional surveillance of the planar alignment, at random areas, between floor beams No. 6 and No. 10, utilizing a Cambridge Gage. At the conclusion of this task the dimensions were recorded as follows: 0 mm to 7mm.

The QAI also, at the request of the QC inspector, William Sherwood, performed a visual verification of the fit-up for the field splice at the bottom plate identified as E9-E10-D1 and D2. At the conclusion of the verification the QAI concurs with the QC inspector's assessment. The planar alignment was measured between 0 mm to 2 mm.

C). QC Inspection Request

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, the QAI randomly verified the visual appearance of the Complete Joint Penetration (CJP) welding of the following; WN: 8E-9E-A-LS4, LS5 and LS6. The QAI verification was performed to verify that the welding and visual inspection performed by the QC inspector, John Pagliero, meet the requirements of the contract documents. At the conclusion of the QAI verification it appeared that the welds and the QC inspection complies with the contract documents.

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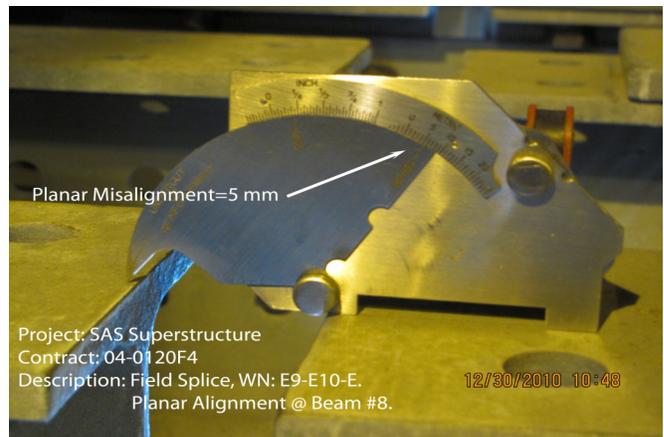
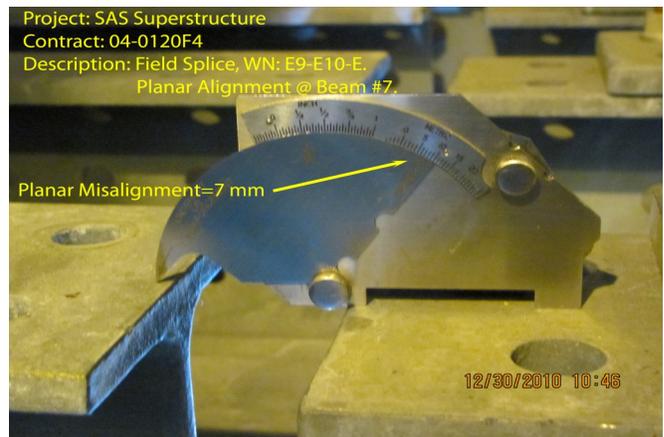
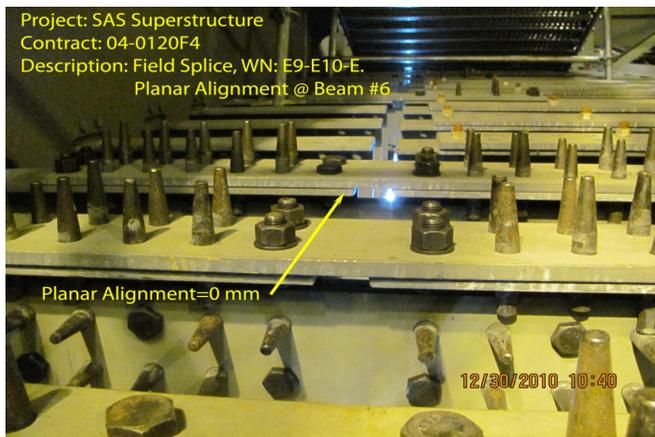
D). Miscellaneous Task

This QAI also performed a review and update of the project progress utilizing QA field reports and NDT reports. The updated project information was documented into the various QA tracking logs.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW welding process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate the work observed during this scheduled shift.



Summary of Conversations:

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There were general conversations with Quality Control Inspector Bonifacio Daquinag, Jr. at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

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:	Reyes,Danny	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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