

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-019040**Date Inspected:** 03-Jan-2011**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:** SAS OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 9E/10E-A1-A5 and the following observations were made:

9E/10E-A1-A5

Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was fit up with the approved temporary attachments or fit up gear in place. Upon the arrival of the QA Inspector, the QC Inspector Bonifacio Daquinag informed the QA Inspector the planar misalignment inspection had been previously performed by SE QC and just required QA verification. The QC Inspector presented the QA Inspector with a planar misalignment map of the areas previously located by QC Bonifacio Daquinag. The QA inspector noted the map indicated the planar off set was broken down to 10 locations through out the transverse weld joint. The QA Inspector reviewed the document and proceeded to perform the random QA verification of the weld joint. The QA Inspector observed areas indicated and performed QA verifications working together with the QC Inspector. After the inspection was completed the QA Inspector noted a total of 980mm at four separate locations. The QA Inspector asked the ABF Welding Superintendent Dan Ieraci if he intended to correct the unacceptable planar misalignment (see summary of conversations). The QA Inspector and the QC Inspector recorded the following locations of planar misalignment:

The unacceptable planar misalignment was located at the following 4 locations:

- 1.) y=4160mm-4610mm (14mm deck section) 0-2mm misalignment (150mm in length)
- 2.) y=8250mm-8740mm (14mm deck section) 0mm-2mm misalignment (490mm in length)

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- 3.) y=21240mm-21440mm (14mm deck section) 0mm-2mm misalignment (200mm in length)
- 4.) y=27140mm-27280mm (20mm deck section) 0mm-2mm misalignment (140mm in length)

The QA Inspector and the SE QC Inspector Bonifacio Daquinag performed dimensional verification of the gaps at the steel backing. The QA Inspector noted the four separate areas where the gap at the steel backing exceeded 2mm. The QA Inspector noted the largest gap was 2.5mm and no gap exceeded 2.5mm for the above identified transverse weld splice. The QA Inspector was informed by the Lead QC Leonard Cross the contractor will write and submit an internal non conformance report in addition to a request to weld repair over the excessive gaps at the steel backing.

Gaps between the steel backing and bevel are located at the following locations:

- 1.) Y=12520mm-12600mm 10E 2.5mm
- 2.) Y=14650mm-14700mm 10E 2.5mm
- 3.) Y=18100mm-18180mm 9E 2.5mm
- 4.) Y=21240mm-21250mm 10E 2.5mm

9E/10E-A1-A5

Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was fit up with the approved temporary attachments or fit up gear in place. The QA Inspector randomly observed the ABF welders identified as #2953, #2930 and #9677 begin performing the SMAW full length tack weld. The QA Inspector was informed by the American Bridge/Fluor (ABF) welding Superintendent Dan Ieraci no runoff tabs would be utilized on this transverse weld splice. The QA Inspector randomly observed the SE QC Inspector Bonifacio Daquinag was on site monitoring the in process SMAW tack welding. The QA Inspector randomly observed and noted the SMAW parameters for all of the above identified ABF welders and they were approximately 165 Amps while utilizing 5/32" E7018 low hydrogen electrodes. The QA Inspector randomly observed the full length tack weld was not completed on this date. The QA Inspector randomly observed the ABF welders begin welding the ends of the weld joint. The QA Inspector noted the contractor will not utilize weld tabs rather back step or cascade the submerged arc welding. The QA Inspector noted the ends of the weld joint were approximately 60% welded to completion at the end of the QA Inspectors shift.

1W-pp9.5-W4-1-4

The QA Inspector randomly observed the SE QC Inspector Mike Johnson performing visual testing as well as magnetic particle testing of the above completed lifting lug deck holes. The QA Inspector randomly observed no relevant indications were located the time of the testing. The QA Inspector proceeded to perform MT verification of the weld joint which had been previously ground flush. The QA Inspector noted no relevant indications were located at the time of the testing (see TL-6028 for additional information).

Summary of Conversations:

The QA Task Lead Inspector Bill Levell informed the QA Inspector the Structure Materials Representative Patrick Lowry gave the verbal approval to perform the welding of the planar off set and to weld and repair the gaps between the steel backing and the bevel that exceed 2mm.

The ABF Welding Superintendent Dan Ieraci informed the QA Inspector No additional fitting tasks could be

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performed at the locations where unacceptable planar misalignment still existed. Mr. Ieraci went on to inform the QA Inspector due to the rigidity of the top deck and underlying U ribs, any additional fitting tasks would be useless and would only break the welds of the temporary attachments.

The QA Inspector asked the SE QC Lead Inspector Bonifacio Daquinag if he could provide QA with a document listing all temporary attachments not specified on the contract drawings. The QC Inspector informed the QA Inspector the SE QC was no longer identifying the temporary attachments and their specific locations. The QC Inspector went on to inform the QA Inspector, he was instructed by his supervisor that it was not necessary to document the locations where the temporary attachments would be magnetic particle tested (MT) during the final MT of the weld joint. The QA Inspector asked the QC Inspector, what about the temporary fitting aids or attachments not near an area where the final weld will be tested or an attachment not consistent with the fit up gear and its typical spacing. The QC Inspector informed the QA Inspector in the case where an attachment is not in the “normal” or “typical” locations they are tested when they are removed. The QC Inspector informed the QA Inspector, he could not provide a document other than the SE QC MT report stating generally the areas where temporary attachments had been removed were tested and accepted.

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:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
