

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015544**Date Inspected:** 08-Jul-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:	Bonifacio Daquinag, Mike Johnson	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 5W/6W, and the following observations were made:

5W/6W-A

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 was informed by the SE QC Inspector the previous dimensional measurements had changed from the day prior (see summary of conversations). Upon the arrival of the QA Inspector, the QC and the QA Inspector performed dimensional measurements of the planar misalignment and noted a significant change from the previous day shift. The QA Inspector noted the only unacceptable planar misalignment in the entire weld joint was in weld segment A1. The QA Inspector measured approximately 250mm of planar misalignment beginning at A1 and spanning toward A2. The QA Inspector noted the misalignment was measured at 12mm. The ABF welder Rick Clayborn was on site to perform additional fitting tasks to correct the planar misalignment (see summary of conversation).

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 following areas have a gap between the steel backing and the bevel that are greater than 2mm:

1.) Y=1980mm-2100mm 4mm (6W)

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- 2.) Y=6805mm-6850mm 3mm (6W)

- 3.) Y=11800mm-12045mm 4mm (5W)

- 4.) Y=18040mm-18350mm 2.5mm (5W)

- 5.) Y=19080mm-19140mm 2.5mm (5W)

- 6.) Y=21505mm-21550mm 2.5mm (5W)

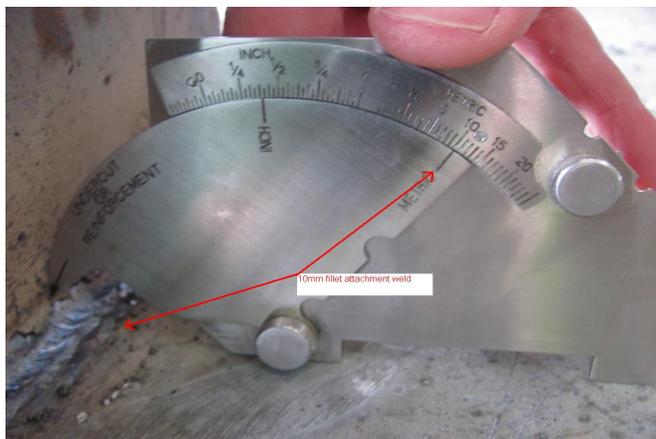
The QA Inspector noted the above identified locations will require engineering approval prior to performing any weld repairs. The QA Inspector noted the locations were submitted by SE to ABF and the approval was given by the Project Engineer Patrick Lowry (see summary of conversation)

The QA Inspector randomly observed the ABF welder Rick Clayborn install a steel plate configuration in the shape of an “L” to create a leverage point for the 55 ton hydraulic jack (pictured below). The QA Inspector noted the jack would apply force to the 5W side of A1 to bring the member down to within the tolerances of AWS D1.5. The QA Inspector randomly observed the ABF welder utilize shielded metal arc welding (SMAW) with 1/8” E7018 low hydrogen electrodes and 133 Amps. The QA Inspector noted the area was preheated with a rose bud torch prior to welding. The QA Inspector randomly observed the ABF welder install the steel plate with a 10mm fillet weld on three sides of the attachment. The QA Inspector noted the weld size and quality was a direct non conformance of ABF-SUB-001361 Rev.01. The QA Inspector wrote and submitted an incident report for the above identified issue. After the temporary attachment was installed, the QA Inspector randomly observed the ABF welder install the 55 ton hydraulic jack and apply force until the two members were of zero planar misalignment. The QA Inspector noted the hydraulic jack did not have a pressure gauge, thus the QA Inspector was unable to determine the amount of force applied to the area. The QA Inspector did noted the ram appeared to be extended approximately 10mm (pictured below). The QA Inspector performed a dimensional verification of the area after the force was applied and noted the planar misalignment was zero. The QA Inspector noted the %w side of the weld joint moved approximately 11mm with the hydraulic force. The QA Inspector noted no additional welding was performed on the QA Inspectors shift.

The QA Inspector randomly observed the SE QC Inspector Bonifacio Daquinag was utilizing a document which allowed a 12mm fillet weld on three sides of a temporary attachment. The QA Inspector noted the ABF document did not appear to be an approved document and 12mm fillet on three sides is not acceptable. The QA Inspector asked the QC Inspector for a copy of the document (see summary of conversation)

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Summary of Conversations:

The SE QC Inspectors Bonifacio Daquinag informed the QA Inspector that at the end of the previous day shift the planar misalignment was approximately 100mm on either end of the weld joint. The QC Inspector went on to say 100mm at the beginning of weld segment A1 and approximately 80mm at the end of weld segment A5.

The ABF welder Rick Clayborn informed the QA Inspector the traditional fit up gear used would no correct the 12mm off set. The welder went on to informed the QA inspector additional fitting aids and or hydraulic force will be the only way to correct the 12mm.

The QA Inspector asked the QC Inspector Bonifacio Daquinag for a copy of the document with temporary attachment information. The QC Inspector Bonifacio Daquinag informed the QA Inspector he was instructed not to provide the QA Inspector with the document. The QA Inspector asked who instructed him to do so; the QC Inspector informed the QA Inspector Mike Johnson instructed him to do so. The QA Inspector was later provided a copy of the document by the SE Lead Inspector Leonard Cross.

The QA Task Lead Bill Levell Informed the QA Inspector the Project Manager Patrick Lowry gave the verbal approval for ABF to move foreword with SMAW repairs of the gaps between the steel backing and the bevel face. The QA Inspector noted the approval was given at 1400.

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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.

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