

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-019460**Date Inspected:** 19-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 Jacking Frame to Saddle fillet weld (East side), 9W/10W-A, and the following observations were made:

Jacking Frame to Saddle fillet weld (East side)

Upon the arrival of the QA Inspector at 0715 it was observed the weld had been previously completed and the post weld heat treat (PWHT) was completed at 0400 hours. Upon the arrival of the QA Inspector it was noted the weld and surrounding base material was approximately 290°F. The QA Inspector performed a random visual inspection of the completed weld joint and noted it appeared to be in general compliance with the contract requirements.

The QA Inspector arrived at the above identified location at 1030 to observe the preheat and perform visual testing of the opposite side of the jack frame (west) weld joint. The QA Inspector was informed the West weld joint was in preparation to be welded at 1030. Upon the arrival the QA Inspector randomly observed the Jacking Frame to Saddle fillet weld (East side) fillet weld and noted the completed fillet weld appeared to be cracked between the toe and the center of the weld. The QA Inspector performed dimensional measurements of the cracked area and noted the crack started at 800mm-810mm and 960mm-1505mm measurements taken from the top down. The QA Inspector notified the QA Task Lead Inspector Bill Levell and Lead QC Inspector Leonard Cross. The QA Inspector noted the induction heating blankets on the opposite side of the jacking frame at the West weld joint were turned on and began heating the steel for welding at 1000. The QA Inspector noted the crack was discovered at

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1030 by the Lead QA Inspector Rick Bettencourt. The QA Inspector noted the temperature of the steel when the crack was discovered was approximately 250°F.

The QA Inspector randomly observed the ABF welder Rick Clayborn begin the excavation and removal of the crack in the above identified fillet weld. The QA Inspector noted the ABF welder was utilizing a carbon air arc to remove the weld material indicated by the SE QC Inspector Mike Johnson and Leonard Cross. The QA Inspector noted the excavation was stopped by the ABF Engineer John Callaghan. The QA Inspector noted the cracked area of weld was only partially excavated and visible cracked weld was still present in the weld joint at the end of the shift.

9W-10W-A

The QA Inspector randomly observed the SE QC Inspectors Jesse Cayabyab and Tony Sherwood performing magnetic particle testing of the full length tack weld of the above identified weld joint. The QA Inspector randomly observed the QC Inspectors had located multiple MT indications indicative of slag inclusions. It was noted the MT was performed by the SE QC for information only and the weld joint is still and in process weld joint at the time of the testing. The QA Inspector noted the ABF Welding Superintendent Dan Ieraci was informed of the MT indications, no action was taken and the submerged arc welding root pass was started and the MT indication were covered with the SAW root pass. The QA Inspector noted the ABF QC Manager Chuck Kanapicki and Leonard Cross were on site to observe the MT indications (see summary of conversation) The QA Inspector wrote and submitted an Incident Report regarding the ABF Welding Superintendent performing welding over known MT indications indicative of unacceptable weld defects.

A3-A5

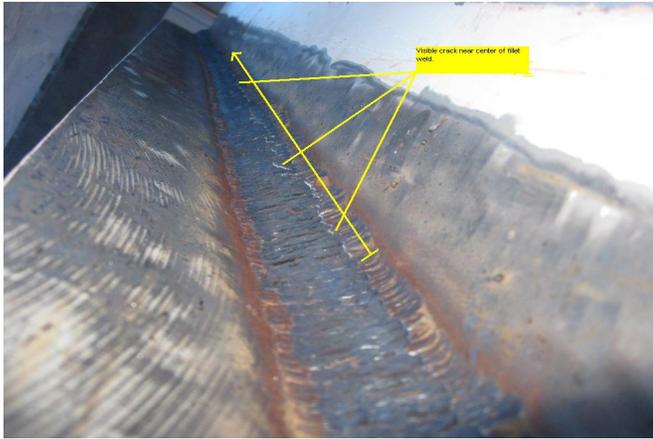
The QA Inspector randomly observed the ABF welding operator James Zhen begin welding the submerged arc welding (SAW) fill pass in the center of A3 and weld to the end of section A1. The QA Inspector randomly observed the SAW parameters and they were 560 Amps, 32.5 Volts and a travel speed of 388mm/min. The QA Inspector noted the SAW parameters appeared to be in general compliance with ABF-WPS-D1.5-4042B-1. The QA Inspector randomly observed the ABF welding operators performing the SAW fill/cover passes for the remainder of the shift.

A3-A1

The QA Inspector randomly observed the ABF Welding Superintendent Dan Ieraci welding the submerged arc welding (SAW) fill pass in the center of A3 and weld to the end of section A5. The QA Inspector randomly observed the SAW parameters and they were 565 Amps, 32.5 Volts and a travel speed of 400mm/min. The QA Inspector noted the SAW parameters appeared to be in general compliance with ABF-WPS-D1.5-4042B-1. The QA Inspector randomly observed the ABF welding operators performing the SAW fill/cover passes for the remainder of the shift. The QA Inspector noted the above identified weld joint was completed on this date.

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Summary of Conversations:

The QA Inspector spoke with the QA Task Lead Inspector Bill Levell and Mr. Levell informed the QA Inspector the approval was given to excavate the cracked fillet weld at 1145 per the Structures Material Representative Patrick Lowry.

The ABF Project Engineer John Callaghan informed the QA Inspector ABF will not proceed to weld the opposite side of the jacking frame on this date. Mr. Callaghan informed the QA Inspector ABF would like topeen between passes and the new procedure was not approved to do so at the current time. Mr. Callaghan and the ABF Engineer Levi Gastos informed the QA Inspector ABF was awaiting a verbal approval to proceed with the welding utilizing the revised procedure to allow peening of the intermediate weld passes. The ABF Representatives informed the QA Inspector if no approval is received ABF will not proceed until the approval is given.

The ABF QCM Chuck Kanapicki informed the QA Inspector that QC are not police officers and cannot stop ABF production from moving foreword. Mr. Kanapicki informed the QA Inspector of his frustration for Mr. Ieraci proceeding to weld the SAW root pass of the MT indications indicative of slag inclusions in the FCAW full length tack weld. Mr. Kanapicki went on to inform the QA Inspector, the above described issue will be kicked to the highest level in regards to proceeding with welding when known unacceptable weld defects were present.

The QA Inspector informed Mr. Cross of the areas at 9E/10E-E, and F that had unacceptable planar off set. Mr. Cross said he was aware of the areas and that they would be submitted to Mr. Kanapicki so an internal NCR could

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be written. The QA Inspector informed Mr. Cross the ABF welding representatives were close to performing production welding at one of the locations and if welding was performed prior to engineering approval an incident report would be written. Mr. Cross acknowledged the QA Inspector and reiterated "it would be taken care of".

The QA Inspector was informed by the QA Task Lead Bill Levell, RWR's identified as 2011001-11,12 approval to perform grinding of "burn thru" areas at 5E/6E-A and 6E/7E-A were approved per Patrick Lowry on this date.

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 Sang Le 916-764-5650, who represents the Office of Structural Materials for your project.

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