

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015458**Date Inspected:** 06-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**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). Field Splice W1/W2
- B). Field Splice W3/W4
- C). Field Splice W4/W5
- D). Field Splice W5/W6

A). Field Splice W1/W2

The QAI observed the Ultrasonic Testing (UT) on the transverse CJP weld of the edge plate field splice identified as WN: 1W-2W-B1. The testing was performed by the QC technician Steve McConnell utilizing a G.E./Krautkramer USM 35X. Mr. McConnell also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the CJP. The QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .75 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. At the conclusion of the testing two (2) rejectable flaws were noted by Mr. Connell.

The QAI also observed the Ultrasonic Testing (UT) on the transverse CJP weld of the edge plate field splice identified as WN: 1W-2W-F1. The testing was also performed by the QC technician Steve McConnell utilizing a G.E./Krautkramer USM 35X. Mr. McConnell also utilized the UT Procedure identified as SE-UT-D1.5-CT-100

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Rev.4 during the examination of the CJP. The QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .75 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. At the conclusion of the testing three (3) rejectable flaws were noted by Mr. Connell.

B). Field Splice W3/W4

The QAI observed the removal of the backing bar and at the conclusion of the backing bar removal the James Zhen ID-6001 commence the back gouging on the "B" face of the single-v-groove weld identified as Weld Number (WN): 3W-4W-F1. The back gouging was performed utilizing the air carbon cutting method and at the conclusion of the gouging ABF personnel Hua Qiang Huang commence the grinding to remove slag, carbon residue and surface irregularities.

The QAI also observed the Ultrasonic Testing (UT) on the CJP weld joint of the side plate field splice identified as WN: 3W-4W-C1 and C2. The testing was performed by the QC technician Steve McConnell utilizing a G.E. /Krautkramer USM 35X. Mr. McConnell also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 as a reference during the examination of the CJP. The QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .63 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. The testing was performed from the "A" face side of the weld joint.

C). Field Splice W4/W5

The QAI observed the Flux Cored Arc Welding (FCAW-G) of the weld joint identified as Weld Number (WN) 4W-5W-D2. The welding was performed by American Bridge/Fluor Enterprise personnel Xiao Jian Wan ID 9677 utilizing the Welding Procedure Specification identified (WPS) as ABF-WPS-D15-3040A-1. The QAI also observed the Quality Control (QC) Inspector Tom Pasqualone utilizing the WPS to monitor the in process welding and verify the Direct Current Electrode Positive (DCEP) welding parameters which were noted as follows: 240 amps, 23.5 volts and a travel speed measured as 270 mm per minute. The QC inspector also verified the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius.

D). Field Splice W5/W6

The QAI observed the QC inspector Bonifacio Daquinag, Jr. perform a dimensional survey of the planar alignment on the bottom plate field splice identified as WN: 5W-6W-D. At the conclusion of the QC inspector's survey no discrepancies were noted by the QC inspector and appeared that the alignment complied with the contract documents. The QAI performed a random verification survey and at the conclusion of the survey QAI concurs with QC assessment.

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

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the FCAW-G 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:

There were no pertinent conversations were discussed in regards to the project.

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: Reyes, Danny

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer