

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-025676**Date Inspected:** 03-Aug-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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 Girder**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various field fit-up of weld joints and the Complete Joint Penetration (CJP). The welding was performed utilizing the Flux Cored Arc Welding (FCAW-G) process.

A). OBG E11/E12

The QAI observed the continued back gouging on the "B" face of the single-v-groove weld identified as Weld Number (WN): 10E-11E-D. This operation was performed by the welding personnel, Fred Kaddu, utilizing the plasma arc cutting method.

B). OBG W10/W11

The QAI observed the continued CJP welding of the side plate field splice identified as 10W-11W-D utilizing the semi-automatic FCAW-G welding process as per the WPS ABF-WPS-D15-3042B-1 Rev. 0. The welding was performed by the welding operator James Zhen ID-6001 and the inspection was performed by the QC inspector Pat Swain utilizing the Welding Procedure Specification (WPS) as a reference during the monitoring of the welding and verifying the welding parameters. The welding was performed in the overhead (4G) position with the work placed in a fixed position at an approximate 22 degree incline. The welding was completed during this shift and appeared to comply with the contract documents.

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C). OBG W11/W12

The QAI observed the continued CJP welding of the side plate field splice identified as 10W-11W-D utilizing the semi-automatic FCAW-G welding process as per the WPS ABF-WPS-D15-3042B-1 Rev. 0. The welding was performed by the welding operator Hua Qiang Hwang ID-2930 and the inspection was performed by the QC inspector William Sherwood utilizing the Welding Procedure Specification (WPS) as a reference during the monitoring of the welding and verifying the welding parameters. The welding was performed in the overhead (3G) position with the work placed in a fixed position at an approximate 22 degree incline. The welding was not completed during this shift and appeared to comply with the contract documents.

D). Tower Shear Plates

The QAI observed the removal of a linear indication located at "K", and identified with weld number E-042. The excavation was performed by Richard Garcia ID-5892 utilizing the Air Carbon Arc (ACA) method and a rotary file attached to a die grinder. Multiple Magnetic Particle Tests (MPT) were performed at various stages during the excavation to monitor the depth and its propagation. The testing was performed by the QC inspector Steve McConnell utilizing the AC yoke method and the MPT procedure identified as SE-MT-D1.5-CT-100 Rev.4. At the conclusion of the excavation to a depth of approximately 23 mm MPT was performed by Mr. McConnell and no linear indications were noted at this time. The maximum length of the indication was 75 mm and the MPT was verified by this QAI.

Later in the shift this QAI verified the preliminary dimensions of the excavation which were performed by Mr. McConnell and were noted as follows; 17 mm wide x 75 mm long x 19 mm in depth. At this time the contractor's Welding Quality Control Manager is generating the Request for Weld Repair Approval document to be submitted to the Department for review and comment.

The QAI also observed the preliminary Ultrasonic Testing (UT) of the tower shear plate identified as WN: S-041 at location "S". The testing was performed by the QC technician John Pagliero utilizing a G.E./Krautkramer USM 35X and the UT procedure identified as SE-UT-D1.5-CT-100 Rev.4. The QC technician performed the required longitudinal wave technique, utilizing a 1.0" diameter transducer to perform the examination for base metal soundness and the shear wave technique for the examination of weld soundness which was performed utilizing a .625" x .750" rectangular transducer. The QC testing was not completed during this shift and no rejectable indications was noted at the time of testing.

This QA Inspector also performed a daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

QA Summary

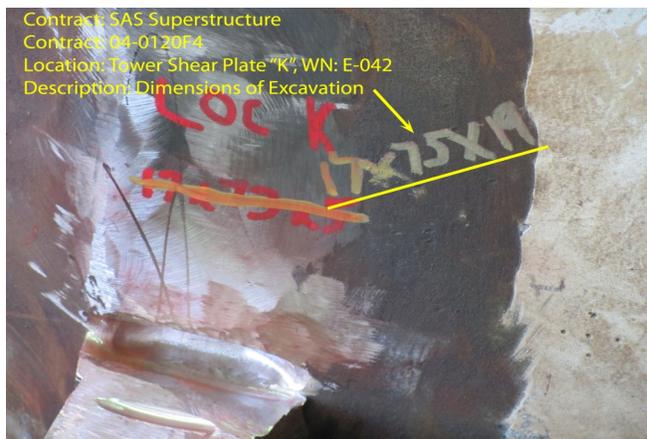
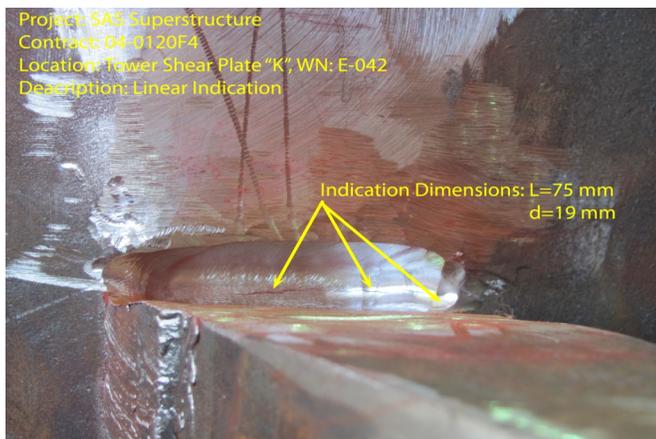
The welding was performed in the flat and horizontal positions utilizing the E71T-1, identified as an H8 electrode designator consumable. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time observations there were issues noted by the QAI as

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described in item "D" of this report.

The digital photographs on page 3 of this report illustrate some of the work observed during this scheduled work date.



Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of 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

Reviewed By: Levell, Bill

QA Reviewer
