

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028591**Date Inspected:** 13-Oct-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** William Sherwood**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:** OBG 13 East**Summary of Items Observed:**

On this date, Quality Assurance Inspector (QAI) Robert A. DeArmond was present at the San Francisco Oakland Bay Bridge job site at Yerba Buena Island to observe erection and welding activities for the San Francisco Oakland Bay Bridge (SFOBB) project. This Quality Assurance Inspector (QAI) observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

1. SPCM R3 (Critical Weld Repair) 13E E2.5 East Drop-In Assembly

The QAI observed that welder 4671-Mike Jimenez, was welding multi-Pass welds at 13E-E2.5 (longitudinal East drop-in repair) in the overhead (4G) position. This QAI observed these parameters as defined in Repair Welding Procedure Specification ABF-WPS-D15-1004-Repair and RWR 201210-005_FD at the following locations.

R3 Y+1,100

Actual Excavation consisted of the following:

- Depth: 9-mm
- Width: 20-mm
- Length: 70-mm

The QAI observed actual carbon arc gouging, excavation revealed (1) 15-mm planar discontinuity at the root face, approximately 4-mm deep.

The QC inspector William Sherwood verified the joint geometry, performed magnetic particle testing for these

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locations as well as observation of actual carbon arc gouging, and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during excavation and welding using a heat blanket at 120 degrees Celsius (250 degrees F) which was verified using a tempilstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the horizontal (4G) position with 3.2 mm electrode with 132 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was William Sherwood and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI

The welder was grinding the starts and stops between weld layers to a bright metal as well as performing PWHT. The location was still in process at the end of this QAI's shift.

2. SPCM R3 (Critical Weld Repair) 13E E2.4 East Drop-In Assembly

The QAI observed that welder 4671-Mike Jiminez, was welding multi-Pass welds at 13E-E2.4 (longitudinal East drop-in repair) in the overhead (4G) position. This QAI observed these parameters as defined in Repair Welding Procedure Specification ABF-WPS-D15-1004-Repair and RWR 201210-012_FD at the following locations.

R3 Y+200

Actual Excavation consisted of the following:

- Depth: 8-mm
- Width: 20-mm
- Length: 60-mm

The QAI observed actual carbon arc gouging, excavation revealed (1) 20-mm planar discontinuity at the root face, approximately 6-mm deep.

The QC inspector William Sherwood verified the joint geometry, performed magnetic particle testing for these locations as well as observation of actual carbon arc gouging, and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during excavation and welding using a heat blanket at 120 degrees Celsius (250 degrees F) which was verified using a tempilstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the horizontal (4G) position with 3.2 mm electrode with 132 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was William Sherwood and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI

The welder was grinding the starts and stops between weld layers to a bright metal as well as performing PWHT. The location was still in process at the end of this QAI's shift.

3. SPCM R1 (Critical Weld Repair) 13E E2.4 East Drop-In Assembly

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The QAI observed that welder 4671-Mike Jiminez, was welding multi-Pass welds at 13E-E2.4 (longitudinal East drop-in repair) in the overhead (4G) position. This QAI observed these parameters as defined in Repair Welding Procedure Specification ABF-WPS-D15-1004-Repair at the following locations.

R1 Y+850

Actual Excavation consisted of the following:

- Depth: 10-mm
- Width: 20-mm
- Length: 60-mm

The QAI observed actual carbon arc gouging, excavation revealed (1) 21-mm planar discontinuity at the root face, approximately 7-mm deep.

The QC inspector William Sherwood verified the joint geometry, performed magnetic particle testing for these locations as well as observation of actual carbon arc gouging, and found it to be acceptable, this information was relayed to the QAI. The welder then continued pre-heat throughout the area during excavation and welding using a heat blanket at 120 degrees Celsius (250 degrees F) which was verified using a tempilstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) electrode E7018 for the Complete Joint Penetration (CJP) weld in the horizontal (4G) position with 3.2 mm electrode with 135 amps. The welder utilized a power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was William Sherwood and was observed verifying and documenting the welding parameters for this location, along with overseeing the welding operations. At the time METS observation was performed. No issues were noted by the QAI

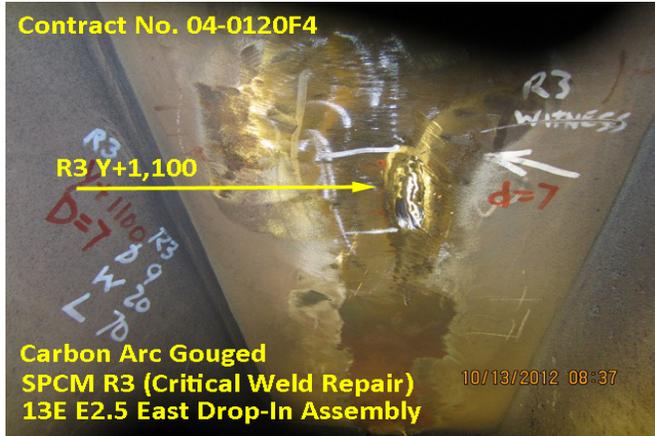
The welder was grinding the starts and stops between weld layers to a bright metal as well as performing PWHT. The location was still in process at the end of this QAI's shift.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding utilizing the WPS's as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspectors utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized for the welding process stated 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. Unless noted otherwise, all work observed on this date appeared to be in general compliance with the contract documents at the time of observations.

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Summary of Conversations:

As mentioned above between QA and QC concerning this 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 Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	DeArmond,Robert	Quality Assurance Inspector
Reviewed By:	Reyes,Danny	QA Reviewer
