

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-019166**Date Inspected:** 04-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**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:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

- 1a). OBG Field Splice 9E/10E Weld ID: D1 & D2, Face A (SAW)
- 1b). OBG Field Splice 9E/10E Weld ID: D1 & D2, Face A (FCAW-G)
- 2). OBG Field Welding of East Line Lifting Lug Hole Inserts (SMAW)
- 3). OBG Field Splice 7E/8E Weld ID: B1, Face B – (SMAW R-1 Repairs)
- 4). OBG Field Splice 9E/10E Weld ID: A1-A5, Face A (SAW)

- 1a). OBG Field Splice 9E/10E Weld ID: D1 & D2, Face A (SAW)

The QAI periodically observed AB/F approved welder James Zhen (ID 6001) performing welding of the cover passes on weld ID: D1 & D2 per the Submerged Arc Welding (SAW) process in the 1G (flat) position. The QAI observed QC Inspectors John Pagliero and Fred Von Hoff were present to monitor the progress and verify that the welding parameters were within the limits established by the approved Welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-4042B-1. The QAI observed that the welding at this location was completed except for the first 1500mm of weld D1 and the last 1200mm of weld D2 which are to be welded per the Flux Cored Arc Welding (FCAW-G) process. The work at this location appeared to be in general compliance with contract documents.

- 1b). OBG Field Splice 9E/10E Weld ID: D1 & D2, Face A (FCAW-G)

The QAI periodically observed AB/F approved welder Xiao Jian Wan (ID 9677) performing welding of the root

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and fill passes on the last 1200mm of weld ID: D2 and AB/F approved welder Hua Qiang Hwang (ID 2930) performing welding of the root and fill passes on the first 1500mm of weld ID: D1. Welding at this location was per the Flux Cored Arc Welding (FCAW-G) process in the 1G (flat) position. The QAI observed QC Inspector Fred Von Hoff was present to monitor the progress and verify that the welding parameters were within the limits established by the approved Welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-3040A-1. The QAI observed that the work at this location was in process and appeared to be in general compliance with contract documents.

2). OBG Field Welding of East Line Lifting Lug Hole Inserts (SMAW)

Interior: OBG 5E-PP31- E3 weld 1 (one R-2 repair)

The QAI periodically observed AB/F approved welder Salvador Sandoval (ID 2202) performing welding of one R-2 repair excavation per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. See photo below. QC Inspector Steve McConnell was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding was completed and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

Exterior: OBG 5E- PP31-E4-weld 4 - (SMAW)

The QAI periodically observed AB/F approved welder Salvador Sandoval (ID 2202) performing fill & cover pass welding at E4 weld 4 per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. QC Inspector Steve McConnell was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1070.

Exterior: OBG 5E- PP31-E4-weld 1- (fit-up and SMAW)

The QAI periodically observed AB/F approved welder Salvador Sandoval (ID 2202) performing fit-up and root pass welding at E4 weld 1 per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. QC Inspector Steve McConnell was present to verify the fit-up and to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1070. The QAI also verified that the fit-up appeared to be in general compliance with contract documents. Root pass welding was in process and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

3). OBG Field Splice 7E/8E Weld ID: B1, Face B – (SMAW R-1 Repairs)

The QAI periodically observed AB/F approved welder Fred Kaddu (ID 2188) performing repair welding of two excavated areas per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position on the interior of OBG Field Splice 8E/9E Weld B1. Later in this shift, the QAI randomly observed Mr. Kaddu performing air carbon arc gouging and grinding on the interior surface of OBG Field Splice 7E/8E Weld ID: B1 to prepare two other R-1 Ultrasonic Testing (UT) reject areas for repair welding. The QAI randomly observed QC Inspector Fred Von Hoff performing Magnetic Particle Testing (MT) of the excavated areas prior to repair welding. The QAI randomly observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The QAI randomly observed AB/F approved welder Fred Kaddu (ID 2188) performing repair welding of the two excavated areas. QC Inspector Fred Von Hoff was present periodically to monitor the progress and verify that the repair welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. The QAI observed that fill and cover pass welding of a total of four excavations on the interior of 7E/8E weld B1 was completed during the QA Inspectors shift on this date and work at this location appeared to be in general compliance with

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contract documents. The QAI observed that the repair areas excavated on this date in on the interior of weld B1 had the following dimensions and the following Y locations:

Two (2) separate excavations, side by side at:

Y = 860mm, Length = 100mm, Depth = 13mm, Width = 15mm.

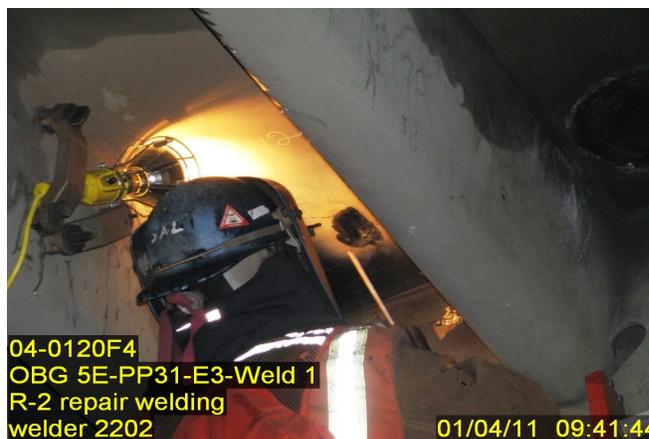
And two other excavations at:

Y = 1090mm, Length = 115mm, Depth = 17mm, Width = 25mm.

Y = 1170mm, Length = 95mm, Depth = 15mm, Width = 25mm.

4). OBG Field Splice 9E/10E Weld ID: A1-A5, Face A (SAW)

The QAI periodically observed AB/F approved welders Dan Ieraci (ID 3232) and James Zhen (ID 6001) performing welding of the root and fill passes on weld ID: A1 through A5 per the Submerged Arc Welding (SAW) process in the 1G (flat) position. See photo below. The QAI noted that Mr. Zhen was welding A1-A2 and Mr. Ieraci was welding A3-A5. The QAI observed QC Inspector Tony Sherwood was present to monitor the progress and verify that the welding parameters were within the limits established by the approved Welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-4042B-1. The QAI noted the QC obtained the following welding parameters: for Mr. Zhen – 558 amps, 32.5 volts, a travel speed of 400mm/min and the QAI calculated a Heat Input of 2.7 kJ/ mm and for Mr. Ieraci – 560 amps, 32.5 volts, a travel speed of 390mm/min and the QAI calculated a Heat Input of 2.8 kJ/ mm. The QAI observed that QC Inspector Tony Sherwood assisted by QC Magnetic Particle Testing (MT) technician Sal Merino performed MT of the first SAW pass prior to fill pass welding. The work at this location was in process and appeared to be in general compliance with contract documents.



Summary of Conversations:

Conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities and locations of welds released to the QAI for verification testing.

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.

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Inspected By: Madison,Bert

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer