

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-017905**Date Inspected:** 09-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**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.

- 1). OBG Field Welding of East Line Lifting Rod Access Penetration Inserts (SMAW)
- 2). OBG East Line Lifting Rod Access Penetration Insert Welds (QC NDT)
- 3). OBG Field Splice of Ventilation Access Insert Weld at 3E-PP23.5-E5-NE – (SMAW)
- 4). OBG Field Splice 6E/7E Weld ID: F1, Face A – (SMAW R-1 Repairs)
- 5). Bent Cap W2 Pipe Supports (SMAW)

- 1). OBG Field Welding of East Line Lifting Rod Access Penetration Insert (SMAW)

Interior: OBG 4E-PP27-E4-weld 4

The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing grinding to prepare a previously back gouged area for back welding. The QAI observed QC John Pagliero performing Magnetic Particle Testing (MT) of the back ground area prior to back welding at this location. The QAI 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 periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E4-weld 4. QC Inspector John Pagliero 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-D1.5-1110B rev. 1. The QAI observed that Mr. Espinoza was using 5/32" E7018 electrodes and the QC Inspector obtained a welding amp measurement of 165Amps. Welding was completed at this location and the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

QAI observed that the work appeared to be in general compliance with contract documents.

2). OBG East Line Lifting Rod Access Penetration Insert Welds (QC NDT)

The QAI periodically observed QC Inspector Patrick Swain performing Magnetic Particle Testing (MT) and Ultrasonic Testing (UT) from Face A of OBG East Line Lifting Rod Access Penetration Insert Welds.

Magnetic Particle Testing (MT)

The QAI periodically observed Mr. Swain performing final QC MT at the following locations:

2E-PP15-E3 welds 1, 2, 3 & 4. The QAI observed that Mr. Swain found the welds MT acceptable at this location.

The QAI 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.

Ultrasonic Testing (UT)

The QAI periodically observed Mr. Swain performing QC UT of R-2 repair locations at the following locations with the following results:

Location: QC UT Results:

1E-PP11-E3 weld 3 (2) R-2 Reject

1E-PP11-E4 weld1 (1) R-2 Reject

1E-PP11-E4 weld2 R-2 Accept

1E-PP11-E4 weld4 R-2 Reject

The QAI observed that Mr. Swain utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the repair welds. The QAI observed as the QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The UT examination was completed during the QA Inspectors shift and the work at this location appeared to be in general compliance with contract documents.

3). OBG Field Splice of Ventilation Access Insert Weld at 3E-PP23.5-E5-NE – (SMAW)

The QAI periodically observed grinding from the exterior and subsequent welding of the Ventilation Access Insert at 3E-PP23.5-E5-NE. The QAI also observed QC Patrick Swain performing Magnetic Particle Testing (MT) of the prepared area prior to welding of the root passes at this location. The QAI 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 periodically observed AB/F approved welder Mick Chan (ID 9265) performing welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. See photo below. QC Inspector Patrick Swain 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-D1.5-1010 rev 1. The QAI observed that welding of root and fill passes was in process at this location and the work appeared to be in general compliance with contract documents.

4). OBG Field Splice 6E/7E Weld ID: F1, Face A – (SMAW R-1 Repairs)

The QAI periodically observed AB/F approved welder Jorge Lopez (ID 6149) performing welding of R-1 Ultrasonic Testing (UT) repair locations per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position of OBG Field Splice 6E/7E Weld ID: F1. See photo below. QC Inspector Tom Pasqualone 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-D1.5-1001 Repair. The QAI observed that Mr. Lopez completed welding of (3) three excavations with the following Y locations:

Indication 1) - Y = 710mm, Indication 2) - Y = 860 and Indication 3) - Y = 1070mm.

The QAI observed that work at this location appeared to be in general compliance with contract documents.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

5). Bent Cap W2 Pipe Supports (SMAW)

The QAI periodically observed the field welding of pipe supports identified with the Weld Numbers 101109-01 and 101109-03 (MC9x25.4 Channel) and Weld Numbers 101109-02 and 101109-04 (W6x25 Wide Flange Beam) to the embeds of the bent cap located at the W2 line. The field welding was performed by F. W. Spencer approved welder David Garcia (ID 8789) utilizing a 3.2 mm electrode as per the Welding Procedure Specification (WPS) identified as Fillet Murex. See photo below. The fillet welding was performed in the 3F (vertical) and 4F (overhead) position with the work placed so that weld metal was deposited on the underside of the horizontal surface and against the vertical surface. The QC Inspector Mike Johnson 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 Fillet Murex. The QAI observed that welding and inspection of the two pipe supports was not completed during this shift. Work at this location 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.

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 Mohammed Fatemi (916) 813 3677, who represents the Office of Structural Materials for your project.

Inspected By: Madison, Bert

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer