

**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-017904**Date Inspected:** 08-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 Field Splice of Ventilation Access Insert Weld at 5E-PP29.5-E2-S – (SMAW)
- 3). OBG Field Splice of Ventilation Access Insert Weld at 3E-PP23.5-E5-NE – (grinding)
- 4). OBG Field Splice 4E/5E Weld ID: ALS 1, 2 & 3, Faces A & B (QC UT)

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

Interior: OBG 1E-PP11-E3-weld 3

The QAI periodically observed air carbon arc gouging and subsequent R-2 repair welding of the Lifting Rod Access Penetration Weld in the A deck at PP11. The QAI observed QC Inspector Patrick Swain transferring two indications from the exterior to the interior surface at 1E-PP11-E3-weld 3. The QAI observed AB/F approved welder Earl Espinoza (ID 5824) performing air carbon arc gouging of the two areas and then observed QC John Pagliero performing Magnetic Particle Testing (MT) of the excavation areas prior to repair 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 Mr. Espinoza performing repair welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. 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-D1.5-1000 Repair rev. 2. Welding was completed from the interior at E3-weld 3 and the QAI observed that the work appeared

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to be in general compliance with contract documents.

Interior: OBG 1E-PP11-E4-weld 4

The QAI periodically observed grinding and subsequent R-2 repair welding of the Lifting Rod Access Penetration Weld in the A deck at PP11. The QAI observed QC Inspector Patrick Swain transferring two indications from the exterior to the interior surface at 1E-PP11-E4-weld 4. The QAI observed AB/F approved welder Earl Espinoza (ID 5824) performing grinding to excavate the two indications in one excavated area and then observed QC John Pagliero performing Magnetic Particle Testing (MT) of the excavation areas prior to repair 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 Mr. Espinoza performing repair welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. 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-D1.5-1000 Repair rev. 2. Welding was completed from the interior at E4-weld 4 and the QAI observed that the work appeared to be in general compliance with contract documents.

Interior: OBG 2E-PP15-E4-weld 3

The QAI periodically observed AB/F approved welder Eric Sparks (ID 3040) performing flush grinding of weld 3 at PP15-E4.

Interior: OBG 3E-PP20-E3-welds 3 & 1

The QAI periodically observed AB/F approved welder Darcell Jackson (ID 9967) performing back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E3-weld 3. 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. Welding was completed from the interior at this location and the QAI observed Mr. Jackson performing grinding and back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E3-weld 1. The QAI observed QC John Pagliero performing Magnetic Particle Testing (MT) of the excavated 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 observed that the work was in process and appeared to be in general compliance with contract documents.

Interior: OBG 3E-PP20-E4-welds 1 & 3

The QAI periodically observed AB/F approved welder Eric Sparks (ID 3040) performing air carbon arc gouging to excavate the interior surface of PP20-E4-welds 1 & 3. The QAI also periodically observed Mr. Sparks grinding in the excavated areas to prepare for back welding and subsequently performing welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E4-weld 1. 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 also periodically observed QC John Pagliero performing Magnetic Particle Testing (MT) of the back ground areas 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. Welding was not completed from the interior at E4-weld 1 and the QAI observed that the work appeared to be in general compliance with contract documents.

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

The QAI periodically observed AB/F approved welder Melvin Ivy (ID 8309) performing grinding and 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 later observed Mr. Ivy performing air carbon arc gouging of E4-weld 4. The QAI spoke with the QC Inspector Mr. Pagliero. See Summary of Conversations below. The QAI periodically observed Welder 8309 performing grinding to prepare the back gouged area for back welding. Work was in process at this location for the duration of the QA Inspectors shift.

2). OBG Field Splice of Ventilation Access Insert Weld at 5E-PP29.5-E2-S – (SMAW)

The QAI periodically observed back grinding and subsequent back welding of the Ventilation Access Insert at 5E-PP29.5-E2-S. The QAI periodically observed that AB/F approved welder Jin Pei Wang (ID 7299) performed welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. See photo below. 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-D1.5-1010 rev 1. The QAI also observed QC John Pagliero performing Magnetic Particle Testing (MT) of the back grind 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 observed that back welding was in process at this location 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 – (grinding)

The QAI periodically observed grinding from the exterior of the Ventilation Access Insert at 3E-PP23.5-E5-NE weld groove. The QAI periodically observed that AB/F approved welder Mick Chan (ID 9265) performed grinding to prepare the exterior groove for welding and grinding was in process at this location for the duration of the QA Inspectors shift. The QAI spoke with QC Mr. John Pagliero at this location. See Summary of Conversations below.

4). OBG Field Splice 4E/5E Weld ID: ALS 1, 2 & 3, Faces A & B (QC UT)

The QAI periodically observed QC Inspector Tom Pasqualone performing Ultrasonic Testing (UT) from both Faces of OBG Field Splice 4E/5E Weld ID: ALS 1, 2 & 3. The QAI observed Mr. Pasqualone utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the splice weld. The QAI observed as QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. See photo below. 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.

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## Summary of Conversations:

From Item 1) above:

The QAI in conversation with QC Mr. Pagliero inquired as to the reason AB/F approved welder Melvin Ivy was air carbon arc gouging the weld he had just completed. Mr. Pagliero stated that Mr. Ivy had not informed the QC that the back ground surface was ready for the QC MT hold point, and MT had not been performed.

From Item 3) above:

The QAI in conversation with QC Mr. Pagliero was informed that prior to the QA Inspectors arrival on this date that AB/F approved welder Mick Chan (ID 9265) had completed SMAW of the OBG Field Splice of the transverse stiffener at the Ventilation Access Insert 3E-PP23.5-E5-NE.

Other 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.

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**Inspected By:** Madison, Bert

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer