

**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-017695**Date Inspected:** 28-Oct-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 Splice of Ventilation Access Insert Stiffeners at 1E-PP10.5-E5 – (QAI Verification)
- 2). OBG Field Splice of Ventilation Access Insert Weld at 3E-PP23.5-E2-S – (QAI Verification)
- 3). OBG Field Splice 7E/8E Weld ID: A4 & A5, Face A – (SMAW R-2 Repairs)
- 4). OBG Field Splice 7W/8W Weld ID: A2, A3 & A5, Face A – (SMAW R-1 Repairs)
- 5). OBG Field Splice 7W/8W Weld ID: A1, Face A (QC UT of R-1 Repairs)

- 1). OBG Field Splice of Ventilation Access Insert Stiffeners at 1E-PP10.5-E5 – (QAI Verification)

The QAI performed verification Magnetic Particle Testing (MT) (25%) and Ultrasonic Testing (UT) of 100% of the lengths of OBG Field Splice of Ventilation Access Insert Stiffeners at 1E-PP10.5-E5 welds: Longitudinal Stiffener West (LSW,) Longitudinal Stiffener East (LSE) and Transverse Stiffener (TS). The welds verified by the QAI at this location appeared to be in general compliance with contract documents. See Magnetic Particle Testing Report Form TL-6028 & Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date.

- 2). OBG Field Splice of Ventilation Access Insert Weld at 3E-PP23.5-E2-S – (QAI Verification)

The QAI performed verification Visual Testing (VT) Magnetic Particle Testing (MT) and Ultrasonic Testing (UT) of 10% of the length of OBG Field Splice of Ventilation Access Insert Weld in "A" at 3E-PP23.5-E2-S. The weld verified by the QAI at this location appeared to be in general compliance with contract documents. See Magnetic Particle Testing Report Form TL-6028 & Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date.

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3). OBG Field Splice 7E/8E Weld ID: A4 & A5, Face A – (SMAW R-2 Repairs)

The QAI periodically observed AB/F approved welder Fred Kaddu (ID 2188) performing grinding to excavate R-2 repair locations and subsequently performing welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position of OBG Field Splice 7E/8E Weld ID: A4 & A5 at R-2 Ultrasonic Testing (UT) rejectable areas. 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-D1.5-1000 Repair. Mr. Pasqualone also performed Magnetic Particle Testing (MT) of the excavated areas prior to the repair welding. 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 Mr. Kaddu completed welding of (2) two excavations with the following dimensions at the following Y locations: Weld A4 - Y = 3950mm, Length = 90mm and Depth = 14mm and Weld A5 - Y = 580mm, Length = 100mm and Depth = 11mm. The QAI observed that the welding at the two locations described above was completed and work at this location appeared to be in general compliance with contract documents.

4). OBG Field Splice 7W/8W Weld ID: A2, A3 & A5, Face A – (SMAW R-1 Repairs)

The QAI periodically observed AB/F approved welder Jin Pei Wang (ID 7299) performing grinding to excavate R-1 repair locations and subsequently AB/F approved welder James Zhen (ID 6001) performing welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position of OBG Field Splice 7W/8W Weld ID: A2, A3 & A5 at R-1 Ultrasonic Testing (UT) rejectable areas. See photo below. QC Inspector Steve McConnell 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-D1.5-1000 Repair. Mr. McConnell also performed Magnetic Particle Testing (MT) of the excavated areas prior to the repair welding. 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 Mr. Zhen completed welding of (3) three excavations with the following dimensions at the following Y locations: Weld A5 - Y = 4990mm, Weld A2 - Y = 4740mm, Length = 170mm and Depth = 14mm and Weld A2 - Y = 4910mm, Length = 250mm and Depth = 14mm. The QAI observed that the welding at the three locations described above was completed and work at this location appeared to be in general compliance with contract documents.

5). OBG Field Splice 7W/8W Weld ID: A1, Face A (QC UT of R-1 Repairs)

The QAI periodically observed QC Inspector Steve McConnel performing UT of OBG Field Splice 7W/8W Weld ID: A1, from Face A. Mr. McConnel utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the splice weld. 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 from face B during this shift and the QAI observed that the QC inspector had marked two rejectable indications in an R-1 repair area located at Y = 0mm.

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## Summary of Conversations:

The QAI was approached by QC Lead inspector Bonafacio Daquinag Jr. who stated that there are welds that have been accepted by QC and are ready to be released to METS for verification testing. Mr. Daquinag identified the areas as: OBG Field Splice of Ventilation Access Insert Stiffeners at 1E-PP10.5-E5 and OBG Field Splice of Ventilation Access Insert Weld at 3E-PP23.5-E2-S

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