

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-016641**Date Inspected:** 01-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**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 1W/2W Weld ID: A LS1, A LS2 and A LS6 - (SMAW)
- 2). OBG Field Splice 4W/5W Weld ID: C1 & C2, Face B - (FCAW-G)
- 3). OBG Field Splice 5W/6W Weld ID: C1 & C2, Face B - (Plasma Cutting)
- 4). OBG 1E Lifting Lug Hole Restoration - (SMAW)
- 5). OBG Field Splice 3E/4E Weld ID: ALS4, A LS5 & A LS6 - (QC NDE)
- 6). OBG Field Splice 3E/4E Weld ID: ALS4 & A LS6 - (QAI Verification)

- 1). OBG Field Splice 1W/2W Weld ID: A LS1, A LS2 and A LS6 - (SMAW)

The QAI periodically observed AB/F approved welders Wai Kitlai (ID 2953) and Yao Xin Liang (ID 7238) performing welding per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position to butter the bevel faces. Mr. Wai Kitlai was welding at A LS1 & A LS2 and Mr. Yao Xin Liang was welding at A LS6. 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-D1.5-1012-3. The QAI also periodically observed that AB/F approved welder Kenneth Chappell was present and that Mr. Chappell periodically supplied 9018 electrodes to the welders at this location and returned their unused electrodes to a drying oven located in the Eastbound line. The QAI observed that the work at this location was in process for the duration of the shift and appeared to be in general compliance with contract documents. While present at this location the QAI spoke with the QC Inspector Mr. Pasqualone regarding the welded insert in the full

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height shear plate at PP13 associated with ABF-SUB-001503R00. See Summary of Conversations.

2). OBG Field Splice 4W/5W Weld ID: C1 and C2, Face B - (FCAW-G)

The QAI periodically observed AB/F approved welder Rory Hogan (ID 3186) performing welding per the Flux Cored Arc Welding (FCAW-G) process in the 4G (overhead) position of fill passes in the prepared groove on the exterior of the field splice. The QAI observed QC Inspector Jim Cunningham 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-D1.5-3042A. The QAI observed that the work at this location was in process for the duration of the shift and appeared to be in general compliance with contract documents.

3). OBG Field Splice 5W/6W Weld ID: C1 & C2, Face B - (Grinding)

The QAI periodically observed ABF personnel performing grinding to prepare the groove for back welding. The work at this location was in process for the remainder of the QA Inspectors shift.

4). OBG 1E Lifting Lug Hole Restoration - (SMAW)

The QAI periodically observed AB/F approved welders Rick Clayborn (ID 2773) and James Zhen (ID 6001) performing welding per the SMAW process in the 1G (flat) position to restore Lifting Lug Holes. Mr. Clayborn was observed welding PP11 E4 at hole 4 and Mr. Zhen was observed welding at PP11 E3 at hole 4. See photos below. The QAI also observed AB/F approved welder Jin Pei Wang on the interior side of the A deck back grinding at weld PP8.5 E3 at hole 3. The QAI observed QC Inspector Tony Sherwood 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-D1.5-1050A-1. The QAI spoke with Mr. Sherwood regarding the electrodes being used at this location. See Summary of Conversations. The QAI observed that the work at this location was in process for the duration of the shift and appeared to be in general compliance with contract documents.

5). OBG Field Splice 3E/4E Weld ID: ALS4, ALS5 & ALS6 - (QC NDE)

The QAI periodically observed QC Inspector John Pagliero performing UT of the OBG Field Splice of A deck Longitudinal Stiffeners (LS) identified as 3W/4W Weld ID: ALS4, A LS5 & A LS6.. Mr. Pagliero utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the splice welds. 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 and the work at this location appeared to be in general compliance with contract documents. The QAI spoke with Mr. Pagliero regarding the work at this location. See Summary of Conversations below.

6). OBG Field Splice 3E/4E Weld ID: ALS4 & A LS6 - (QAI Verification)

The QAI spoke with QC Inspector Mr. Leonard Cross. See Summary of Conversations below. The QAI performed verification Visual Testing (VT) of 100%, Magnetic Particle Testing (MT) of 30% and Ultrasonic Testing (UT) of 100% of the lengths of OBG Field Splice 3E/4E Weld ID: ALS4 & ALS6. The 3E/4E Weld ID: ALS6 verified by the QAI appeared to be in general compliance with contract documents. The 3E/4E Weld ID: ALS4 verified by the QAI did not appear to be in general compliance with contract documents. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date. While QAI verification was in process, the QC Inspector John Pagliero arrived and spoke with the QAI. See Summary of Conversations below. After completion of the QAI

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verification the QAI informed QC Inspector Mr. Pagliero of the results of the QAI verification.



Summary of Conversations:

From Item 1).

The QAI in a conversation with QC Mr. Pasqualone inquired as to the status of the repairs and QC NDE of the welded insert in the full height shear plate. Mr. Pasqualone stated that the original QC UT resulted in three R-1 repairs. Two of the R-1 repairs were UT rejects and became R-2 repairs. The two R-2 repairs were UT acceptable but a fourth UT reject was discovered that had been missed originally. The repair of this fourth UT reject has yet to be excavated and repaired.

From Item 4).

The QAI in a conversation with QC Mr. Sherwood was told that the electrodes used to restore the lifting lug holes are 3 different sizes. He stated that a 3.2 mm electrode is used for the root pass, a 4 mm for the fill passes and a 4.8 mm electrode for the fill and covers. He stated that the welding amperage must be increased with each increase in electrode size.

From Item 5).

The QAI in conversation with QC Mr. Pagliero was told that QC Magnetic Particle Testing had been previously performed at this location. Mr. Pagliero also stated that the UT results were acceptable and pointed out one area on ALS6 that was marked and said that it was not rejectable and that he left it marked so the QAI would know he had observed it and accepted it. Mr. Pagliero stated that the three stiffener splice welds at this location were ready for QAI verification.

From Item 6).

The QAI was told by Mr. Leonard Cross that the OBG Field Splice 3E/4E Weld ID: ALS4, ALS5 & ALS6 were available for QAI verification.

The QC Inspector was told by Mr. Pagliero that he had made a mistake and that the weld ALS5 had not completed the 48 hour hold yet. The QAI replied that the QAI was already aware of that fact.

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

Reviewed By: Levell,Bill

QA Reviewer