

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016248**Date Inspected:** 17-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**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 2W/3W Weld ID: D1 & D2, Face A
- 2). OBG Field Splice 3W/4W Weld ID: B1, Face B
- 3). OBG Field Splice 4W/5W Weld ID: B1 and F1, Face B
- 4). OBG Field Splice 5W/6W Weld ID: C1, Face A
- 5). OBG Field Splice 5W/6W Weld ID: A1 & A5, Face A
- 6). OBG Field Splice 1E/2E Weld ID: A, LS4, LS5 & LS6.

- 1). OBG Field Splice 2W/3W Weld ID: D1 & D2, Face A

The QAI performed verification Ultrasonic Testing (UT) of 10% of the lengths of OBG Field Splice 2W/3W welds D1 and D2 from Face A. The QAI inspected 500mm of Weld D1 from Y = 100mm to Y = 450mm and from Y = 600mm to Y = 750mm. The QAI inspected 500mm of Weld D2 from Y = 3500mm to Y = 3650mm and from Y = 3800mm to Y = 4150mm. Weld D2 was verified by the QAI and found to be in general compliance with contract documents. Weld D1 was verified by the QAI and not found to be in general compliance with contract documents. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date. See Summary of Conversations below.

- 2). OBG Field Splice 3W/4W Weld ID: B1, Face B

The QAI performed verification Visual Testing (VT) and Ultrasonic Testing (UT) of 10% of the lengths of OBG

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Field Splice 3W/4W Weld ID: B1 from Face B. Weld B1 was verified by the QAI and found to be in general compliance with contract documents. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date.

3). OBG Field Splice 4W/5W Weld ID: B1 and F1, Face B

The QAI observed QC Inspector Tony Sherwood performing Magnetic Particle Testing (MT) OBG Field Splices 4W/5W Weld ID: B1 and F1 from Face B. 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. Work at this location was completed and appeared to be in general compliance with contract documents. See Summary of Conversations below.

4). OBG Field Splice 5W/6W Weld ID: C1, Face A

The QAI periodically observed AB/F approved welder Song Tao Huang (ID 3794) was present and in the process of setting up to perform welding per the Flux Cored Arc Welding (FCAW-G) process in the 3G (vertical) position of fill passes on weld ID: C1. 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-D1.5-3042B-1. The QAI observed did not observe the commencement of welding on this date.

5). OBG Field Splice 5W/6W Weld ID: A1 & A5, Face A

The QAI periodically observed AB/F approved welder Kenneth Chappell (ID 3833) performing grinding at the crossbeam end of weld A5 & AB/F approved welder Fred Kaddu (ID 2188) performing welding at the counterweight side of weld A-1 per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. See photos below. 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-D1.5-1001-Repair. Work at this location was completed and appeared to be in general compliance with contract documents. See Summary of Conversations below.

6). OBG Field Splice 1E/2E Weld ID: A, LS4, LS5 & LS6.

The QAI performed verification Visual Testing (VT) of 100% and Ultrasonic Testing (UT) of 100% of the lengths of OBG Field Splice 1E/2E weld ID: A, LS4, LS5 & LS6. The welds verified by the QAI were found to be in general compliance with contract documents. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date.

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Summary of Conversations:

From Item 1).

Although QC Inspector Tom Pasqualone was the UT technician responsible for UT of the repairs at OBG Field Splice 2W/3W Weld ID: D1 & D2, Face A, Mr. Pasqualone was not available at the completion of the QA Verification and the QAI contacted QC Inspector Jesse Cayabyab. The QAI Explained to Mr. Cayabyab that a UT rejectable indication had been observed in weld D1 during the QAI verification testing and that QC would need to confirm the indication during the present shift. Mr. Cayabyab stated that they would fix it. The QAI explained to Mr. Cayabyab that a representative from QC would need to perform UT and generate a report to be used by the contractor for affecting the repair. Mr. Cayabyab agreed and proceeded to get his UT Instrument and accompany the QAI to the location where the rejectable indication had been identified. Mr. Cayabyab began to perform UT and stated that the indication was so close to the opposite face (the outside face) that he believed that it was weld crown geometry. The QAI stated that the QAI Inspector had already visually observed the outside surface at the location of the indication and that the area was ground flush and smooth and the QAI also noted that the surface has been painted. The QAI stated that he would leave the QC inspector to perform his QC evaluation and return later to find out the conclusion. The QAI returned later to find that Mr. Cayabyab and QC Steve McConnell had done further UT and concluded that it was surface geometry on the outside even though Mr. McConnell admitted that he has not seen the surface on the outside at the indication location. The QC Inspectors also stated that even though they are aware that surface dampening is not permitted by the welding code, they utilized this method to determine that the indication is surface related. The QC Mr. McConnell stated that they would perform further investigation.

From Item 3).

The QAI in a conversation with the QC Inspector Tony Sherwood was informed that the QC MT of OBG Field Splice 4W/5W Weld ID: B1 and F1 was already completed on Face A.

From Item 5).

The QAI in a conversation with the QC Inspector Tony Sherwood was informed that the QC UT of the welding at the ends of welds A1 & A5 had been inadvertently missed at the time of the welding of said locations. QC Sherwood stated that when the original QC UT repairs were welded, the ends of A1 & A5 were also welded but QC UT was only performed of the repair areas and not the new welds at the ends of welds A1 & A5. Mr. Sherwood stated that this UT was performed approximately 2 days ago and rejected areas discovered at that time are being repair welded on this date.

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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
