

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028304**Date Inspected:** 30-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job site**CWI Name:** Salvador Merino**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:** OBG**Summary of Items Observed:**

Quality Assurance Inspector (QAI) Rodney Patterson was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

**Ultrasonic Testing OBG**

This QA performed verification Ultrasonic Testing (UT) on Complete Joint Penetration (CJP) deck panel drop-in connections on lift 12E~14E. The welds were previously tested and accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. The QAI's findings are as follows;

**Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-A/B)**

The QAI performed a minimum of 10% verification of this weld. No rejectable indications were observed at the time of inspection.

**Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-C/D)**

The QAI performed a minimum of 10% verification of this weld. No rejectable indications were observed at the time of inspection.

**Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-B)**

The QAI performed a minimum of 10% verification of this weld. No rejectable indications were observed at the time of inspection.

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Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-D)

The QAI performed a minimum of 10% verification of this weld. No rejectable indications were observed at the time of inspection.

Lift 12E/13E Edge Plate field splice (Weld No. 12E/13E)

The QAI performed a minimum of 50% verification of this weld. A total of one (1) rejectable indication was observed at the time of inspection. The Rejectable indication was confirmed by ABF QC inspector Patrick Swain during this shift.

The QAI noted and periodically observed ABF welder Eric Sparks #3040 continuing to perform Shielded Metal Arc Welding (SMAW) in the 3G position utilizing the Caltrans approved Welding Procedure Specifications ABF-WPS-D1.5-1004-Repair. The repairs are located on the edge plate field splice between lift 13E/14E. The weld is designated as 13E/14E-G. The weld and surrounding area was brought to a temperature by the use of a gas torch and the Quality Control (QC) inspector Salvador Merino was observed monitoring the welding parameters at the beginning of welding.

Magnetic Particle Testing (OBG 13E/14E)

This QA Inspector performed a minimum of 15% verification Magnetic Particle Testing (MT) of the lift 14E Longitudinal Diaphragm Stiffener Splice and fillet connections at panel point 124.65. This QA Inspector generated a TL-6028 MT report on this date. The results of the inspection are as follows;

Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-B)

The QAI performed a minimum of 15% verification of this weld. A total of one (1) 100mm rejectable linear indication was observed at the lower toe of the reinforcing fillet. The indication was ground out without requiring repair by welding. No other indications were discovered at the time of inspection.

Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-D)

The QAI performed a minimum of 15% verification of this weld. No rejectable indications were observed at the time of inspection.

Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-A/B)

The QAI performed a minimum of 15% verification of this weld. No rejectable indications were observed at the time of inspection.

Lift 14E Longitudinal Diaphragm Stiffener Splice (Weld No. 13E-PP124.65-E3-C/B)

The QAI performed a minimum of 15% verification of this weld. No rejectable indications were observed at the time of inspection.

Lift 14E Longitudinal Diaphragm Stiffener fillet weld (Weld No. 13E-PP124.65-E3-RSA)

The QAI performed a minimum of 15% verification of this weld. No rejectable indications were observed at the time of inspection.

Lift 14E Longitudinal Diaphragm Stiffener fillet weld (Weld No. 13E-PP124.65-E3-RSB)

The QAI performed a minimum of 15% verification of this weld. No rejectable indications were observed at the

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time of inspection.

The QAI noted and periodically observed ABF welder Richard Garcia #5892 continuing to utilize Flux Cored Arc Welding (SMAW) in the 4G position utilizing the Caltrans approved Welding Procedure Specifications ABF-WPS-D1.5-3110-4. The repairs are located on deck panel drop-in splice transverse weld designated as 13E-PP122. The weld and surrounding area was brought to a temperature by the use of induction heaters and the Quality Control (QC) inspector Fred Michaels was observed monitoring the welding parameters at the beginning of welding. After review of the request for weld repair document RWR201208-105 on 08-29-2012, the QAI confirmed that the ABF QC disregarded the approved document and performed critical weld repairs with a welding procedure not specified in the approved document. The QA task leader was notified in writing on 08-29-2012 of the non-compliant issue for further discussion with the Caltrans Structural Materials Representative (SMR) and ABF Management.

The QAI was notified by ABF/JV QC inspector Salvador Merino that the lifting lug removal areas on the E3 longitudinal diaphragm south side at panel point 124.65 were completed and ready for QA verification. The results of the inspections are as follows.

#### Panel Point 124.65 E3 longitudinal diaphragm

The QA visual inspection at the lifting lug removal area was performed at this location and measurements taken on the required 3/1 slope of the removal area appeared to comply with ABF-RFI-001151R00 and Magnetic particle testing of the removal areas has not been performed at this location to date. The ABF/JV QC inspector Salvador Merino then proceeded to perform magnetic particle testing (MT) of the lifting lug removal area and observed a total of one (1) linear indication on the remaining lug attachments. The indication was then ground out until the indication was no longer visible with MT.

The QAI spent a portion of this shift reviewing and documenting the status and completion of various production welding tracking logs for lift 13E-14E drop-in deck work currently in-process. The QA recorded the information on the OBG tracking log.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

#### **Summary of Conversations:**

As noted above

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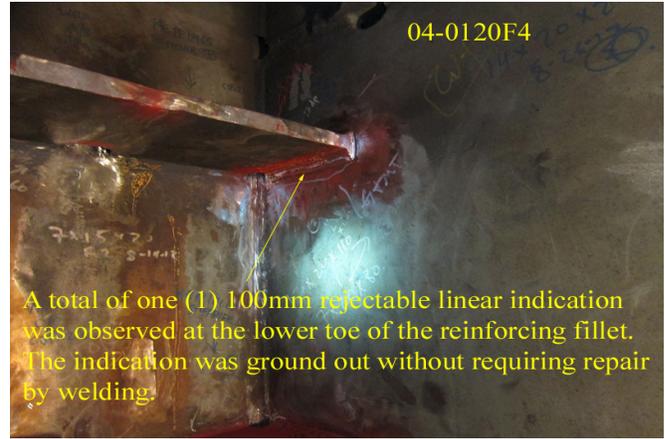
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## Comments

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 Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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**Inspected By:** Patterson,Rodney

Quality Assurance Inspector

**Reviewed By:** Levell,Bill

QA Reviewer

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