

**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-026546  
**Date Inspected:** 19-Oct-2011

**Project Name:** SAS Superstructure  
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV  
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 700  
**OSM Departure Time:** 1730  
**Location:** Job Site

<b>CWI Name:</b>	Pat Swain	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes	No N/A
		<b>Delayed / Cancelled:</b>	Yes	No N/A
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG Sections	

**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

**Orthotropic Bridge Girder (OBG) Sections:**

14E: This QA Inspector randomly observed various ABF personnel were in the process of lifting OBG section 14E into position this date. See photo below. This QA Inspector was informed by ABF Welding Foreman James Zhen (#6001) that his crew, ABF welding personnel Wai Kitlai (#2953), Xiao Jian Wan (#9677), Jin Pei Wang (#7299) and a helper, would be moving welding equipment into position for welding on 14E and that welding would not be performed this date. This QA Inspector randomly observed the shelter housing the welding power supply units and consumables was moved further towards OBG section 14E and that the Submerged Arc Welding (SAW) flux oven had been moved.

10W-PP88-W4 Lifting Lug Hole (LLH) #4: This QA Inspector randomly observed ABF welding personnel Mike Jiminez (#4671) was starting the excavation of a repair at this location. QC Inspector Pat Swain was also present and confirmed this the second repair cycle at this specific location (R-2). This QA Inspector was present when QC Inspector Pat Swain perform a visual and Magnetic Particle Testing (MT) on the excavation area and informed ABF welding personnel Mike Jiminez (#4671) a small MT indication was present and requested additional grinding be performed to remove the MT indication. This QA Inspector randomly observed that after the

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additional grinding was completed QC Inspector Pat Swain re-inspected the excavation using the visual and MT methods. QC Inspector Pat Swain informed ABF welding personnel Mike Jiminez (#4671) and this QA Inspector he had accepted the inspections. This QA Inspector performed a random visual verification and the excavation appeared to be free of any indications and contoured to profile for repair welding. This QA Inspector observed the excavation was located at Y-310, was 95 mm long, 22 mm wide and 11.5 mm deep. See photo below of excavation. ABF welding personnel Mike Jiminez (#4671) had instructed his helper, Gayson Smith, to place a copper plate on the bottom side of the lifting lug hole in a effort to prevent blowing a hole through the base metal while welding the first pass, ABF personnel Gayson Smith confirmed this had been done. This QA Inspector randomly observed as ABF welding personnel Mike Jiminez (#4671) used a hand held gas torch to preheat the excavation and surrounding base metal prior to performing welding using the Shielded Metal Arc Welding (SMAW) process. This QA Inspector used an electronic temperature gauge to verify the preheat temperature was greater than the minimum temperature of 125°F. This QA Inspector randomly observed QC Inspector Pat Swain verify the following welding parameters; 134 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-1000-Repair. This QA Inspector observed after the completion of welding the excess weld metal was removed by grinding and ground flush for QC inspections. QC Inspector Pat Swain stated the preliminary visual inspection appeared to be acceptable but that the final inspections (visual, MT and Ultrasonic Testing) would not be performed until after a 24 hour waiting period.

10W-PP92-W4 Lifting Lug Hole (LLH) # 1 and # 3: This QA Inspector randomly observed as QC Inspector Pat Swain performed Ultrasonic Testing (UT) on the Complete Joint Penetration (CJP) weld joints LLH # 1 and # 3. This QA Inspector observed a 70 degree shearwave transducer was used and scanning was performed from both sides of the weld from the A-deck surface. This QA Inspector was informed by QC Inspector Pat Swain that he had accepted the UT inspection of the repair (R-1) on LLH # 1. This QA Inspector observed a UT indication was detected by QC Inspector Pat Swain at one of the two repair areas on LLH # 3. The UT indication appeared to have been maximized, and the indication rating calculated. QC Inspector Pat Swain stated the indication rating was a Class – A defect, rejected regardless of length. This QA Inspector observed as the length of the defect was determined, approximately 20 mm long. This QA Inspector also observed the defect appeared to be verified by scanning from the opposite side of the weld in which it was initially detected (lifting lug hole -plate). This QA Inspector observed as the defect was marked on the surface of the weld along with the length and depth. QC Inspector Pat Swain informed both ABF welding personnel Mike Jiminez (#4671) and ABF Welding Foreman Eric Sparks (#3040) of the UT inspection results. See photo below. This QA Inspector randomly observed as ABF welding personnel Mike Jiminez (#4671) used a grinder to excavate the defect. This QA Inspector observed QC Inspector Pat Swain performed a visual and MT on the excavation area which was at Y-365 and had a length of 100 mm and depth of 10.5 mm. ABF personnel Gayson Smith informed ABF welding personnel Mike Jiminez (#4671) that he had placed a copper plate on the bottom of the weld joint to prevent burn though while welding from above. This QA Inspector observed QC Inspector Pat Swain had verified the following SMAW welding parameters; 134 amperes. This QA Inspector observed a 3.2 mm diameter E7018H4R electrode was being used. The welding observed appeared to comply with ABF-WPS-D15-1000 – Repair. This QA Inspector observed the repair welding was completed this date.

This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

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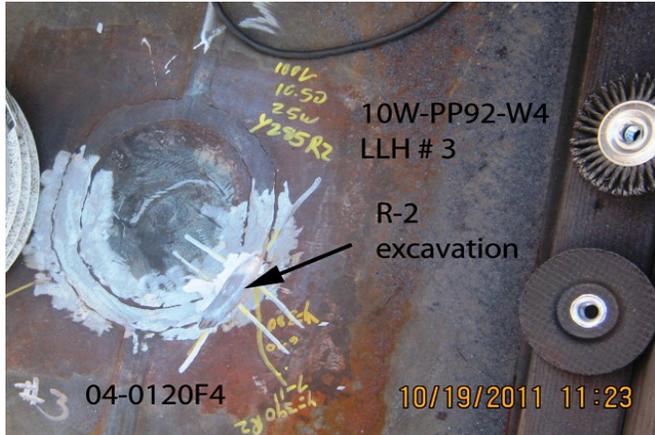
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## Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted above there were no notable conversations.



## 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:** Hager,Craig

Quality Assurance Inspector

**Reviewed By:** Levell,Bill

QA Reviewer

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