

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027484**Date Inspected:** 19-Apr-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** As noted 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:**

Quality Assurance Inspector (QA) Douglas Frey 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:

Tower 9M Elevation weld #057-2 Drop in Plate

This QA Inspector randomly observed ABF welder Wai Kit Lai (ID 2953) perform Flux Core Arc Welding with Gas (FCAW-G) in the 1G flat position on drop in plate weld #057-2. QC Inspector William Sherwood was present to monitor the welding and the parameters to ensure compliance with the applicable WPS. This QA Inspector observed heat induction blankets to provide pre-heat for the single bevel joint and verified the temperature was the required minimum of 225° F. This QA Inspector observed the removal of the electrode spool which was discarded and replaced with a new E71T-11 electrode spool. Mr. Sherwood measured the parameters for amperage, volts, travel speed and the heat input. On a subsequent observation, this QA Inspector observed ABF welding personnel cleaning the edge of the work with a chipping hammer between passes. Mr. Lai was observed manipulating the positions of each consecutive pass during the ongoing process and inspected each completed pass for indications and workmanship. QC Inspector William Sherwood was present to monitor the welding and the parameters so they remain within the requirements of the Welding Procedure Specification (WPS). This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications and ABF-WPS-D1.5-3160-1.

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Electro Slag Weld (ESW) Section: The QC Documents observed being used by this QA Inspector for the following weld joints appeared to be designated as ESW and require Post Weld Heat Treatment (PWHT) prior to final Non Destructive Testing (NDT).

ESW Weld# N-043 Joint P Face B

This QA Inspector randomly observed ABF welder Richard Garcia performing excavation operations of ultrasonic rejectable indications on Weld #N-043 Joint P on Face "B". The welder was observed utilizing Carbon Air Arc as well as small disc grinders and compressed air to remove material to clean sound metal. On a subsequent observation, it was noted that Mr. Garcia was continuing to excavate and the work at this location was in progress.

ESW Weld # N-045 Joint E

This QA Inspector randomly observed ABF welder Jeremy Dolman (ID 5042) utilize the Carbon Air Arc Method to remove material from the base metal (at the sump level of N-045 Joint E from 0mm up to 150mm). The welder was observed cleaning the edges employing a die grinder and was measuring the work to gauge progress. On a subsequent observation, it was note that the welder had completed the re-sizing and QC Inspector William Sherwood was present to perform a Magnetic Particle (MT) Inspection of the site and noted that no rejectable indications were observed. This QA Inspector performed MT testing on the 150mm radius weld access hole. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications. The welder was observed performing the same operation on Joint F Weld # E-045 in the same location. On a subsequent observation, the welder was continuing to make progress.

ESW Weld #S-042 Joint L Face B

This QA Inspector randomly observed ABF welder Rory Hogan (ID 3186) performing the back-gouge operation of ultrasonic rejectable indications on Weld # S-042 Joint L on face "B" located at y+ 110 mm: (10 mm wide; 30 mm length; and 5 mm in depth) This QA Inspector observed QC Inspector Jesse Cayabyab perform a MT of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present. This QA Inspector performed MT testing on the excavation. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications. This QA Inspector randomly observed ABF welder Rory Hogan performing the repair welding operation of an ultrasonic indication as per the SMAW process in the (4G) overhead position. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector William Sherwood verify that the preheat temperature was at the minimum of 300°F and that the welding parameters (Amps=135) were in accordance with WPS D1.5-1000- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications. Upon completion of the repair, a thermal induction blanket was placed over the area for Post Weld Heat Treatment (PWHT) at 450 degrees

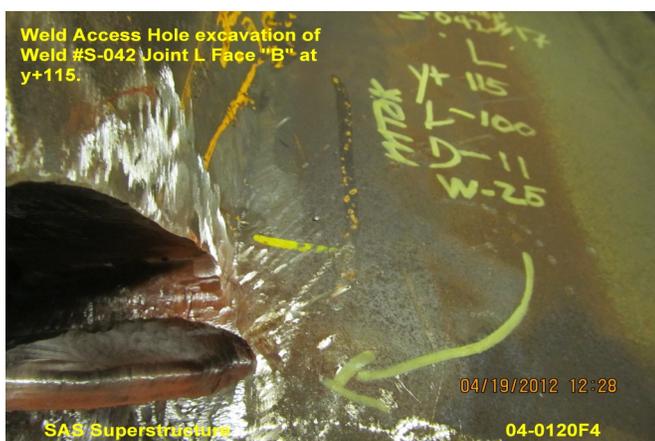
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F for 1 hour. This QA Inspector randomly observed the welder performing the back-gouge operation of ultrasonic rejectable indications on ESW Joint M Weld #W-042 located at y+ 115 mm: (25 mm wide; 100 mm length; and 11 mm in depth). This QA Inspector observed QC Inspector Tony Sherwood perform a MT of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present. This QA Inspector performed MT testing on the excavation. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6. 26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications.

Summary of Conversations:

There were general conversations with Quality Control Inspector, Jesse Cayabyab at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.



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: Frey,Doug

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer