

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-027877**Date Inspected:** 28-Jun-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:** Bernie Docena**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 Tower**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Electro Slag Welding (ESW) 'R' face B (S-043), QA randomly observed ABF/JV qualified welder Jin Pei Wang continuing to perform CJP groove welding repair/restoration at Y=1690mm with excavation dimensions of 370mm long X 58mm wide X 42mm deep. This excavation was made as demonstration to Caltrans personnel the transverse indications that were detected from Ultrasonic Testing (UT). There was no approved Request for Welding Repair (RWR) prior to the excavation and restoration welding but according to our Task Leader Bill Levell, he had a conversation with ASMR Aaron Prchlik and that the RWR is still being finalized by ABF and it should be forthcoming. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The repair excavation was preheated to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blankets placed at the other side of the joint being welded. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 126 amperes during welding. During the shift, the welding restoration/repair of weld joint mentioned above was completed.

At Tower Base Electro Slag Weld (ESW) this QA observed ABF welder Xiao Jian Wan continuing to perform repair excavation at location 'V' face A (W-043) due to Ultrasonic Testing (UT) detected defect. The repair excavation is being undertaken per Caltrans approved Request for Weld Repair (RWR) #201206-044 and

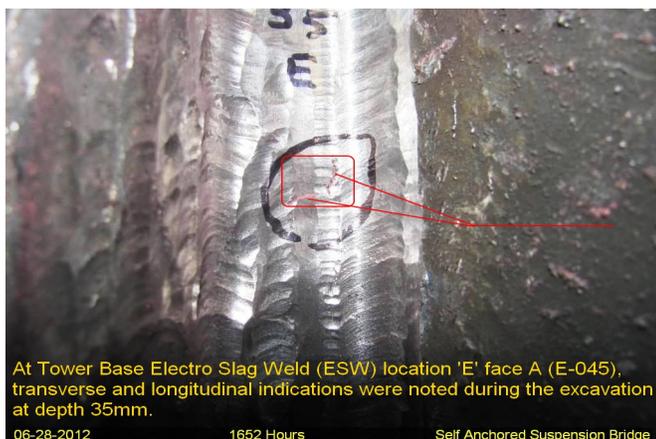
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#201206-045 on two combined UT defects. The welder was noted using carbon air arc gouging followed by grinding using a die grinder. During the excavation, the indication at depth 50mm was one indication measuring 15mm long at the bottom of the excavation and this was confirmed using Magnetic Particle Testing (MT). The welder continued the excavation at depth 53mm and at this depth there was no more linear indication visible. The welder was told by ABF QC to grind and clean the whole area in preparation for the QC and QA inspection/verification. When the grinding was completed, the final depth of the excavation was measured 53mm. ABF QC Bernie Docena performed the final VT and MT on the boat shape excavation and found no significant defect during the tests. This QA performed the VT and MT verification and noted same result. The final dimension of the combined excavation located at Y=3950mm and Y=4270 was 560mm long X 70mm wide X 53mm deep with final location Y=3900mm to Y=4330mm.

At Tower Base Electro Slag Weld (ESW), this QA observed ABF welder Lou Xiao Hua perform repair excavation at location 'T' face A (S-043) Y=4510mm due to Ultrasonic Testing (UT) detected defect. The repair excavation is being undertaken per Caltrans approved Request for Weld Repair (RWR) #201206-053. The welder was noted using carbon air arc gouging followed by grinding using a die grinder. During the excavation, one linear indication was noted at depth 32mm and was measured 27mm long. This was confirmed using Magnetic Particle Testing (MT). The welder continued the excavation at depth 42mm and the indication has increased to 45mm long. The welder continued the excavation at approximate depth 45mm when the welder has stopped the excavation due to end of the shift. The welder has told ABF QC Bernie Docena and this QA that he will continue the excavation tomorrow.

At Tower Base Electro Slag Weld (ESW), this QA observed ABF welder Wai Kitlai continuing to perform repair excavation at location 'E' face A (N-045) from Y=8560mm to Y=9560mm. This excavation has started from Y=6640mm and ended at Y=9650mm and this was made as part of the demonstration to Caltrans personnel the transverse linear indications that were detected from UT. Originally, there was no Caltrans approved RWR prior to this excavation but according to ABF QC Bonifacio Daquinag, once ABF have excavated all the suspected transverse including the longitudinal to the allowed depth (2/3 thickness = 40mm) and removed the detected transverse/longitudinal linear indications, an RWR will be generated by ABF for its subsequent repair. During the excavation some minor longitudinal and transverse indications were found at depths 20mm and 35mm. After checking and taking photographs on these indications, ABF QC Bernie Docena instructed the welder to excavate 5mm more that should maximized the depth (40mm) allowed for this particular 60mm thick shear plate. This was already at the end of the shift, so the welder informed QC and QA that he will resume the excavation tomorrow.



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Summary of Conversations:

No significant conversation occurred today.

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

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
