

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-025410**Date Inspected:** 04-Aug-2011**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:	Steve Mc Connell and Steve Jensen			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 Elevation 13 Meters after the Electro Slag Welding (ESW) of eight (8) butt joints and twelve (12) T-joints, ABF personnel were noted continuing to grind/clean the removal of the run off tab welded on each joint. During the grinding and followed by Magnetic Particle Testing (MT), ABF QC Steve Mc Connell noted linear indications on top of the ESW welded T-joints. At first, ABF personnel were just using disc grinder to excavate and chase the linear indications but switched to carbon air arc gouging when they noted that the indications were wide and deep. ABF personnel excavated the linear indications using the carbon air gouging then followed up with a die grinder to make them smooth. The following ESW welded T-joints where the run off tab removed were noted with linear indications with some already excavated and tested with Magnetic Particle Testing (MT) by ABF QC Steve Mc Connell. The three (3) ESW welded T-joints that have been excavated and MT tested were also MT verified by this QA. Listed below are top of the ESW welded T-joints after the run off tab removal;

ESW Weld Location Excavation Dimension (L x W x D) Magnetic Particle Testing Remarks

1. 'L' (S-042) 175mm x 30mm x 24mm MT Passed Repair pending.
2. 'K' (E-042) 195mm x 30mm x 25mm MT Passed Repair completed.
3. 'M' (W-042) 155mm x 40mm x 24mm MT Passed Repair pending.
4. 'E' (N-045) Excavation using carbon air arc gouging in progress.

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5. 'F' (E-045) Excavation using carbon air arc gouging in progress.
6. 'G' (S-045) 50mm indication noted. To be excavated.
7. 'H' (W-045) 60mm indication noted. To be excavated.
8. 'W' (W-041) 50mm indication noted. To be excavated.
9. 'R' (E-041) 55mm indication noted. To be excavated.
10. 'S' (S-041) 50mm indication noted. To be excavated.

At Tower Base Elevation 13Meters, Electro Slag Weld (ESW) T-joint #E-042 location 'K', QA randomly observed ABF/JV qualified welder Richard Garcia perform CJP groove welding repair on top of the ESW welded T-joint. The linear indication that was originally noted on top of the ESW weld joint went as far as 25mm deep into the skin plate 'A' of the Tower West Shaft. The indication was first ground using a disc grinder then followed by a die grinder. ABF personnel switched to carbon air arc gouging when they noted that the indication was going deep. The final excavation profile was noted boat shape and was having an excavation dimension of 195mm long x 30mm wide x 25mm deep.

Prior to the repair welding of the T-joint location mentioned above, Caltrans Engineer Doug Wright informed this QA that the repair on this particular has been approved.

The welder was observed welding in the 2G (horizontal) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The repair excavation was preheated to more than 300 degrees Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC Steve Mc Connell was noted monitoring the welder. Measured welding parameter during welding was 120 amperes on a 1/8" diameter E7018H4R electrode. Prior welding, ABF QC Steve Mc Connell was observed performing Magnetic Particle Testing (MT) on the excavated welding repair. This QA verified the repair excavation using the same MT test.

Other related activities noted during the shift include 45 degree bevel cutting on top of 80mm shear plate at the East side of the Tower. ABF welder Rory Hogan was noted cutting the bevel to 45 degree using an oxy-acetylene gas torch with the nozzle attached to a track mounted that was motor driven. Bevel cutting was still continuing at the end of the shift. All other personnel were noted grinding the top of the ESW weld joints after the run off tab removal.

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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
