

**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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004031**Date Inspected:** 02-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China**CWI Name:** Zhu Zhong Hai**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:****Tower Shop Bay 3 Deck Panel repairs**

The QA Inspector randomly observed ZPMC personnel performing grinding of repairs for the Orthotropic Box Girder (OBG) deck panel Partial Joint Penetration (PJP) welds. During initial observations it was noted that fifteen (15 ea) deck panels are inside the shop. This QA inspector observed ZPMC performing repair's on the following deck panels; DP572-001-A, DP572-001-B and DP557-001 these were in process for the remainder of this shift. Also noted that ZPMC had six (6) Deck Panel plates located in bay 3 performing CJP weld splicing using the FCAW process on DP540-001-300 under WPS-B-T-2231-B-U2-F by welder Liu Guoxuan ID#-0066279.

Certified Welding Inspector for ZPMC Chen Xi was present at this location for the monitoring of the deck repairs and inspection. Also noted in bay 3 to monitor deck panel repairs were ABF personnel Kevin Chen, Wang Zhong Yuan and Ding Bao Hua.

**Cracked Tack weld Bay 3**

This QA inspector was notified by ABF personnel of a cracked tack weld on floor beams FB062-001-004 Bottom Plate BP089-001-006. ZPMC's CWI Wu Ming Kai was present during the excavation of the tack weld by ZPMC personnel using a grinder to remove the welds. After the welds were removed Caltrans, ABF and ZPMC observed the location and concurred that the crack was removed. This QA inspector then observe ZPMC perform an MT inspection to ensure base metal soundness and complete removal of the crack this QA inspector was informed by ZPMC that the area was acceptable. ZPMC will now proceed and re-weld the tack weld and proceed with fillet welds.

**89m Mock-up Submittal SUB101R2**

This QA inspector was informed by SMR Josh Ishibashi that ZPMC had completed the welding of lug plate to diaphragm and started the controlled cool date. ABF and ZPMC used a temperature indicating laser gun to

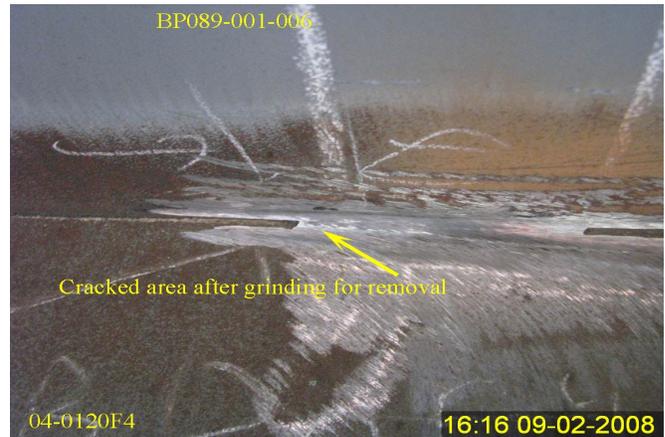
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monitor the temperatures as the welds were cooling down. The starting temperature for the controlled cool process at 1430 hrs was 182°C within the 1 hour time frame the temperature had dropped to 121°C which was a 61°C drop outside the approved procedures. Also noted was that ZPMC discontinued the monitoring and documentation of the cool down at 1800 hrs with a temperature of 58°C. The ambient average temperature for today was noted as 32°C which gave an approximate difference of 26°C. The following was the documented cool down rates for weld number MUB-MA21-G/J-26. ZPMC had their CWI Zhu Zhong Hai performing the monitoring of the heat cool down. An TL-15 will be generated for the above issues.

Controlled Cool Down rate;

1430 hrs – 182°C  
1500 hrs – 130°C  
1530 hrs – 121°C  
1600 hrs – 126°C  
1630 hrs – 102°C  
1700 hrs – 84°C  
1730 hrs – 65°C  
1800 hrs – 58°C



## Summary of Conversations:

As stated above.

## Comments

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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 Ady Velasco , 1-381-694-2685, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Riley, Ken	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

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