

**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-013079**Date Inspected:** 23-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Wuzhi Cheng**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:** Orthotropic Box Girder (OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

**HEAVY DOCK**

LIFT: 5 East and West.

The following Non Destructive Testing (NDT) Inspection carried out as per the ZPMC submitted Notification No. 005408.

**Magnetic Particle Testing (MT)**

This QA performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control (QC) personnel. This QA generated MT report for this date. The member is identified as OBG Lift: 5 East and West on Deck panel Utility pipe support clips (Crossbeam side) Component. Total number of welds MT Tested: 04 No's in each Lift.

**OBG TRIAL ASSEMBLY**

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SEGMENT: 7AW-Panel Point (PP) # 47.5~48-Counter weight (CW) side.

The following Non Destructive Testing (NDT) Inspection carried out on Segment: 7AW-PP#47.5~48.

Visual Inspection (VT)

This QA Inspector performed random VT of Segment: Segment: 7AW-PP#47.5~48 on “T”Ribs, Longitudinal diaphragm and floor beam.

During Quality Assurance VT review of “T”Ribs, Longitudinal diaphragm (LD) and floor beam base metal, this Quality Assurance Inspector (QA) discovered the following issue:

SIDE PANEL (CW SIDE) AND LD 11B.

- One (1) Arc Strike on Segment 7AW -1st “T”Rib flange base metal. (See attached Picture: 6.)
- Two (2) Arc Strikes on Segment 7AW -2nd “T”Rib flange base metal. (See attached Picture: 5.)
- Nine (9) Arc Strikes on Segment 7AW –Longitudinal Diaphragm (LD 11B) base metal. (See attached Picture: 2, 3&4.)
- Two (2) Arc Strikes on Segment 7AW –floor beam web base metal (West side). (See attached Picture: 1.)
- SEGMENT: 7AW is located near the OBG TRIAL ASSEMBLY AREA.

(The attached photographs provide additional detail.)

Applicable reference: Section 9.2.2.1 of the ZPMC Welding Quality Control Plan (WQCP)

“The surface defects such as pitting, arc strikes and compress marks shall be repaired by grinding and arc gouge excavation if necessary. The ground surface shall be transitioned smoothly. If the thickness after grinding is within the allowance shall have no need for repairing weld. Magnet Particle test shall be performed for the arc strike area after grinding for verifying no more defects.”

This QA notified ZPMC QC identified as Mr.Wuzhi Cheng and ABF inspector identified as Mr. Zouhu of the above issue, and reported to the Team leader for further action.

This QA Inspector Randomly observed the following work in progress:

SEGMENT: 7AE –Panel Point#49 (Bike Path Side).

Shielded Metal Arc Welding (SMAW) welding of Repair weld joint DP662-001-020. Welder is identified as 048659. ZPMC Quality Control (QC) is identified as Mr. Wuzhi Chang. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-345-SMAW-3G(3F) FCM-Repair-1.

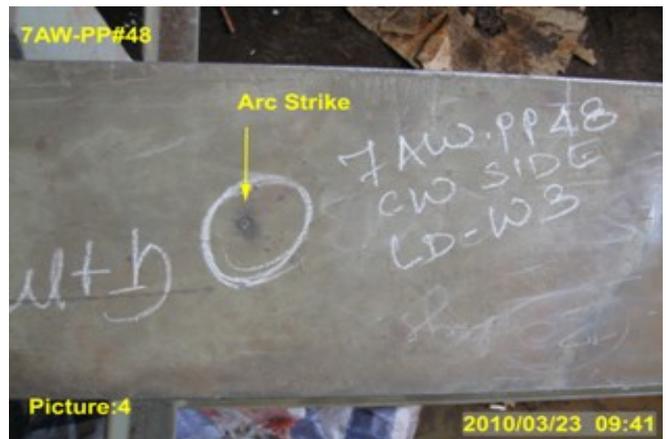
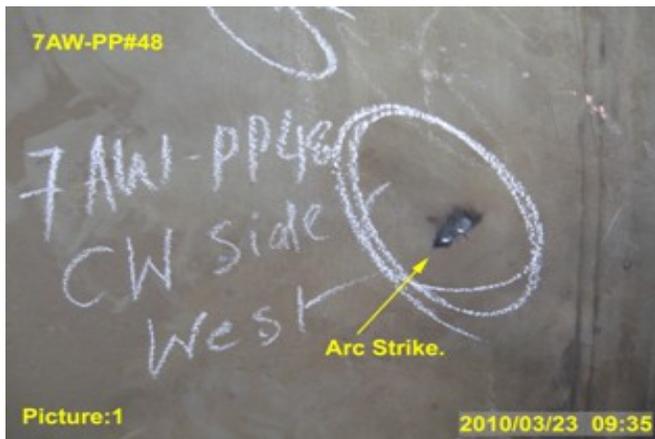
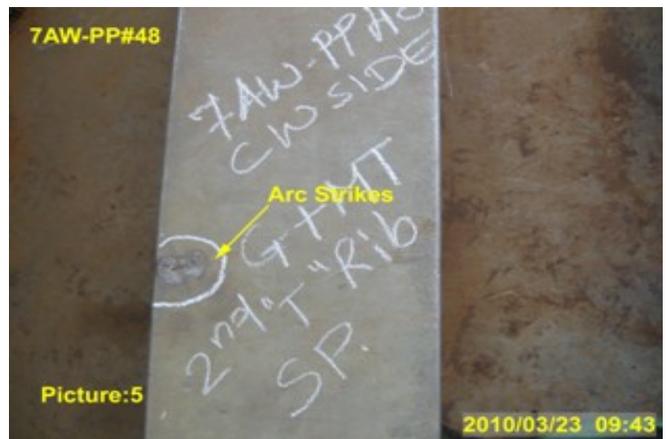
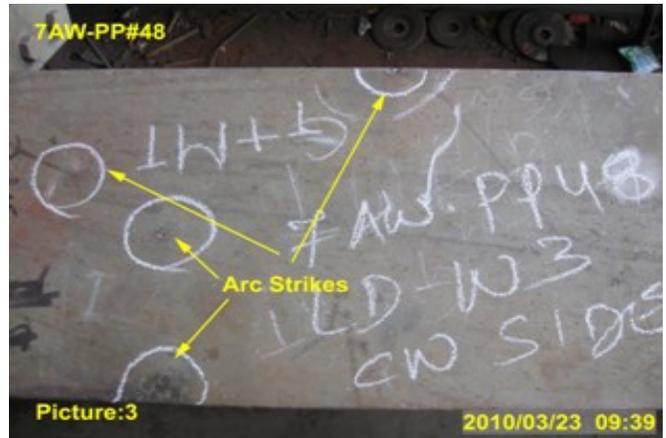
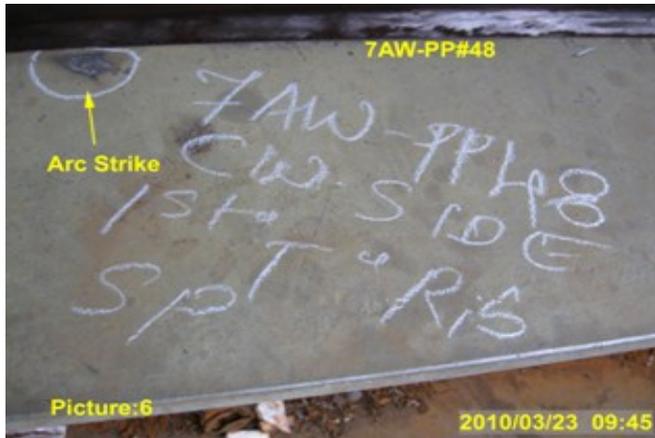
SEGMENT: 7AE-7BE - PP#49.

This QA Inspector observed ZPMC MT Technician Mr.Wang Wei was performing Magnetic Particle Testing (MT) for Bottom panel T Rib Holdback fillet welds at SEGMENT: 7AE-7BE@ PP#49.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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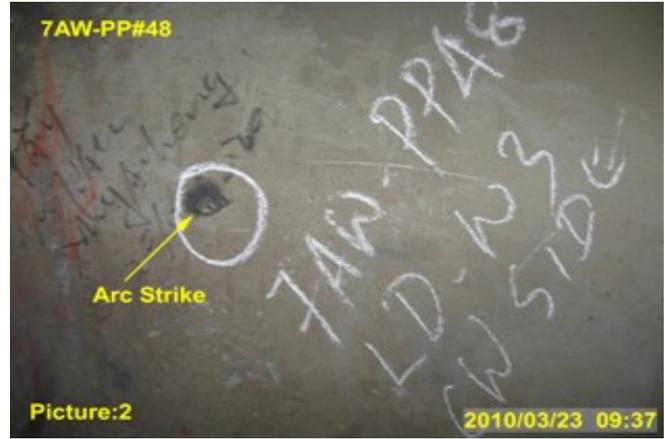
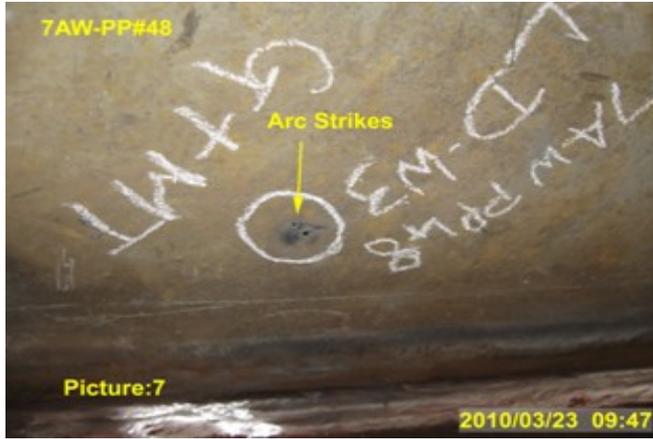
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## Summary of Conversations:

Only general conversation was held between QA and Quality Control (QC) concerning this project.

## 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 Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Prabhu,Surendra	Quality Assurance Inspector
<b>Reviewed By:</b>	Miller,Mark	QA Reviewer

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