

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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014436**Date Inspected:** 23-May-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:** Sun Bo**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 Sub-Assembly**Summary of Items Observed:**

On this day Caltrans OSM Quality Assurance (QA) Inspector Stefan Holmes was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhen Hua Port Machinery Company (ZPMC) at Chang Xing Island in Shanghai, China.

Non-Destructive Testing pursuant to Non-Destructive Testing Inspection Notification Sheet (Document No. 005803):

Ultrasonic Testing:

This QA inspector performed Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows:

DP3088-001-237~240.

DP3090-001-247, 248, 239, 240.

QA Inspector performed initial Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds, # UT 04-0120F4 PJP Rib Weld" after conventional UT was performed on tack welded areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plate. The deck panels examined are as follows:

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DP3124-001: 18 tack weld location found compliant and 35 tack weld locations found non-compliant as follows:

- Weld number 1: 2 Gate to Gate indications found compliant; 6 found non-compliant.
- Weld number 2: 2 Gate to Gate indications found compliant; 11 found non-compliant.
- Weld number 3: 3 Gate to Gate indications found compliant; 0 found non-compliant.
- Weld number 4: 1 Gate to Gate indications found compliant; 3 found non-compliant.
- Weld number 5: 1 Gate to Gate indications found compliant; 3 found non-compliant.
- Weld number 6: 1 Gate to Gate indications found compliant; 5 found non-compliant.
- Weld number 7: 2 Gate to Gate indications found compliant; 4 found non-compliant.
- Weld number 8: 6 Gate to Gate indications found compliant; 3 found non-compliant.

QA inspector performed conventional Ultrasonic (UT) Inspection on deck panel tack weld areas. The inspection is preliminary prior to using the phased array (PAUT) testing system to verify indications found with conventional Ultrasonic testing. Deck Panel(s) inspected are as follows:

DP3075-001; 5 ribs, 10 welds, 250 total tack welds inspected.

- Weld 1 scanned 25 locations with 2 indication.
- Weld 2 scanned 25 locations with 3 indications.
- Weld 3 scanned 25 locations with 3 indications.
- Weld 4 scanned 25 locations with 3 indications.
- Weld 5 scanned 25 locations with 1 indication.
- Weld 6 scanned 25 locations with 2 indications.
- Weld 7 scanned 25 locations with 2 indications.
- Weld 8 scanned 25 locations with 3 indications.
- Weld 9 scanned 25 locations with 0 indications.
- Weld 10 scanned 25 locations with 8 indications.

All indications for further inspection by PAUT are marked on top of u-ribs. Please see U-rib Deck Panel Tack Weld Assessment sheet dated 24 April, 2009 for specific locations of indications.

QA Inspector performed initial Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds, # UT 04-0120F4 PJP Rib Weld" after conventional UT was performed on tack welded areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plate. The deck panels examined are as follows:

DP3075-001: 0 tack weld location found compliant and 27 tack weld locations found non-compliant as follows:

- Weld number 1: 0 Gate to Gate indications found compliant; 2 found non-compliant.
- Weld number 2: 0 Gate to Gate indications found compliant; 3 found non-compliant.
- Weld number 3: 0 Gate to Gate indications found compliant; 3 found non-compliant.
- Weld number 4: 0 Gate to Gate indications found compliant; 3 found non-compliant.
- Weld number 5: 0 Gate to Gate indications found compliant; 1 found non-compliant.
- Weld number 6: 0 Gate to Gate indications found compliant; 2 found non-compliant.
- Weld number 7: 0 Gate to Gate indications found compliant; 2 found non-compliant.

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Weld number 8: 0 Gate to Gate indications found compliant; 3 found non-compliant.

Weld number 9: 0 Gate to Gate indications found compliant; 0 found non-compliant.

Weld number 10: 0 Gate to Gate indications found compliant; 8 found non-compliant.

Tack weld locations found non-compliant are marked on U-rib and deck plate for ZPMC's reference for repair. This QA Inspector prepared a Caltrans U-rib to Deck Panel- Tack Weld Assessment Report for this date.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.

Summary of Conversations:

No relevant conversations.

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.

Inspected By:	Holmes,Stefan	Quality Assurance Inspector
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Reviewed By:	Hall,Steven	QA Reviewer
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