

**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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004587**Date Inspected:** 03-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** Ho Chang, Korea**Location:** Un Yang, Korea

<b>CWI Name:</b>	N/A		
<b>Inspected CWI report:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	Yes	No	N/A

**Bridge No:** 34-0006**Component:** PIER E2 Bearing and Shear Key**Summary of Items Observed:**

The following report is based on METS observations at HoChang Machinery Industries. Current work: Casting, forging and machining.

On this date the Caltrans Quality Assurance (QA) inspector, Dong J. Shin arrived at Ho Chang Machinery Industries (HCMI) located at Ulsan, Korea. The Purpose of this trip was to observe quality control during fabricate and process of following items.

**Forging**

1. Bearing Bottom Housing (B1-07/F07302-010): Completed normalizing and heat treating
2. Bearing Bottom Housing (B2-07/F07302-020): Completed normalizing and heat treating
3. Bearing Bottom Housing (B3-07/F07302-030): Completed normalizing and heat treating
4. Bearing Bottom Housing (B4-07/F07302-040): Completed normalizing and heat treating
5. Spherical Ring (S1-07/F07302-050): Completed normalizing and heat treating
6. Spherical Ring (S2-07/F07302-060): Completed normalizing and heat treating
7. Spherical Ring (S3-07/F07302-070): Completed normalizing and heat treating
8. Spherical Ring (S4-07/F07302-080): Completed normalizing and heat treating
9. Solid Shaft (B1-02/F07302-090): Completed normalizing and heat treating
10. Solid Shaft (B2-02/F07302-100): Completed normalizing and heat treating
11. Solid Shaft (B3-02/F07302-110): Completed normalizing and heat treating
12. Solid Shaft (B4-02/F07302-120): Completed normalizing and heat treating

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\* F number is DooSan Production Number.

## Casting

### 1. Bearing Top Housing

Unit # 1: Pattern making

Unit # 2

Unit # 3

Unit # 4

### 2. Bearing Hold Down Assembly

Unit # 1: Pattern making

Unit # 2: Pattern making

Unit # 3

Unit # 4

### 3. Shear key Housing

Unit # 1: Pattern making

Unit # 2: Pattern making

Unit # 3

Unit # 4

### 4. Shear Key Stub

Unit # 1: Pattern making

Unit # 2

Unit # 3

Unit # 4

\* Blank is not started.

Witnessed in house UT, QA inspector checked calibration, scanning pattern and UT operator, certification.

Ultrasonic testing scan did not meet ASTM A 388 and Specification requirements.

Surface condition was very rough (this test was only for in house information) and could not be scanned in two directions. A 2MHz, 24mm diameter straight beam transducer was used.

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Solid shaft 090,100 11.03.2008 15:05



Bearing bottom housing 040



Bearing bottom housing 010 11.03.2008 14:35



Solid shaft 110,120 11.03.2008 14:42



Bearing bottom housing 020 11.03.2008 14:37



Spherical ring 070,080 11.03.2008 14:48

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## Summary of Conversations:

Discussed with Mr. C. I. Park and Mr. S. H. Kwak regarding NDE procedure submittal schedule and fabrication procedure comments.

## 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 Jinesh K, Mehta 951-840-0541, who represents the Office of Structural Materials for your project.

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**Inspected By:** Shin,DJ

Quality Assurance Inspector

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**Reviewed By:** Lanz,Joe

QA Reviewer