



DEFENSE ENERGY SUPPORT CENTER



# FINAL 2009 THIRD QUARTER INTEGRITY TESTING REPORT (CDRL A001) OF JP-8 REFUELING SYSTEM(S) At TRAVIS AFB, CA

*Prepared for:*  
**Defense Energy Support Center  
Ft. Belvoir, Virginia**

*Prepared under:*  
**AFCEE Contract FA8903-04-D-8684-0008**

*Submitted by:*  
**Michael Baker Jr., Inc.  
Virginia Beach, VA**

*Date:* 27 July 2009

**FINAL 2009 THIRD QUARTER INTEGRITY TESTING REPORT (CDRL A001)  
OF JP-8 REFUELING SYSTEM(S)**

**TRAVIS AFB, CA**

*Prepared for:*

**Defense Energy Support Center  
Ft. Belvoir, VA**

*Prepared under:*

**AFCEE Contract FA8903-04-D-8684-0008  
Project Number: ENV-[*Insert Project Number*]**

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**27 July 2009**

**TABLE OF CONTENTS**

<u>Section</u>	<u>Page</u>
<b>PROFESSIONAL ENGINEER CERTIFICATION: .....</b>	<b>ii</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>iii</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
1.1 Purpose of Project.....	1
1.2 Project Scope .....	1
1.3 Project Team .....	2
1.4 Qualifications of Testing Procedures Used.....	2
<b>2.0 INTEGRITY TESTING AND RESULTS.....</b>	<b>3</b>
<b>3.0 CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>4</b>
3.1 Conclusions.....	5
3.2 Recommendations.....	5

**TABLES**

Table 1 – Items Tested.....	2
Table 2 – Integrity Test Results .....	4

**APPENDICES**

APPENDIX A: Hansa Consult of North America, LLC Test Report

APPENDIX B: Michael Baker Jr., Inc. Site Map

**PROFESSIONAL ENGINEER CERTIFICATION:**

**Final 2009 3<sup>rd</sup> Quarter Integrity Testing Report (CDRL A001)  
OF JP-8 Refueling System(s)  
Travis AFB, CA**

This report has been reviewed by a professional engineer and has been prepared in accordance with good engineering practices. Laboratory results, field notes, and supporting data have been reviewed and referenced correctly.

I hereby certify that I have examined this report and attest that it has been prepared in accordance with good engineering practices.

Engineer: Christopher D. Caputi, P.E.

Registration Number: 032382

State: Virginia

Date: **27 July 2009**



## EXECUTIVE SUMMARY

The scope of this project is to perform third quarter integrity testing of JP-8 Refueling System(s) at Travis AFB, CA. The test is performed in accordance with LG 151-3 and the requirements of the county of Solano County Department of Environmental Health, Hazardous Material Division (HMD) which is the Certified Unified Program Agency (CUPA) in the County of Solano. The HMD, as the CUPA, is the local agency that implements the regulations governing the construction, installation, operation, repair, and removals of underground storage tank (UST) systems in the county of Solano.

The JP-8 Refueling System(s) was Hansa Consult of North America (HCNA) Leak Detection System (LDS) integrity tested 15 June 2009 through 24 June 2009 with no detectable leak above the test method's minimum detectable leak rate of 0.002% of line capacity resulting in a pass test result.

Travis AFB should continue to operate the JP-8 Refueling System(s) in accordance with all Federal, State, and local regulations. The JP-8 Refueling System(s) should be retested before the end of the fourth quarter of 2009.

## **1.0 INTRODUCTION**

### **1.1 Purpose of Project**

The Defense Energy Support Center contracted Michael Baker Jr., Inc. (Baker) through AFCEE Contract FA8903-04-D-8684-0008, Project Number ENV-11 (114623 8.7.9.86) to perform quarterly integrity testing of JP-8 Refueling System(s) at Travis AFB, CA. The test is performed in accordance with LG 151-3 and the requirements of the county of Solano County Department of Environmental Health, Hazardous Material Division (HMD) which is the Certified Unified Program Agency (CUPA) in the County of Solano. The HMD, as the CUPA, is the local agency that implements the regulations governing the construction, installation, operation, repair, and removals of underground storage tank (UST) systems in the county of Solano

### **1.2 Project Scope**

A Hansa Consult of North America, LLC (HCNA) integrity test on JP-8 Refueling System(s) was performed on 15 June 2009 through 24 June 2009. Table 1 provides a description of the systems tested.

**Table 1 – Items Tested**

<i>Section</i>			
<i>No.</i>	<i>Designation</i>	<i>Pipeline Length {ft}</i>	<i>Test Date</i>
1	Hydrant B, Tanks 1732, 1772, HSV, Fillstand	13,080	6/15/2009
2	Tanks 1770, 1777, HSV	8,141	6/16/2009
3	F-C Transfer Line	8,238	6/16/2009
4	Hydrant G	4,195	6/16/2009
5	F-B-G Transfer w/ B TRL	18,113	6/15/2009
6	Area F – Meter Station	5,400	6/23/2009
7	Suisun – Meter Station	32,633	6/23/2009
8	Hydrant H	8,089	6/24/2009

### **1.3 Project Team**

Baker subcontracted HCNA to perform the integrity testing. Field-testing oversight, coordination with facility fuels representatives, quality assurance/quality control (QA/QC), and final report preparation and submission was provided by Baker personnel.

### **1.4 Qualifications of Testing Procedures Used**

The testing procedures used were those defined as the HCNA leak detection method. Determination of leakage is based on the criteria established in the Ken Wilcox third party evaluation. The HCNA LDS is certified with a capability to detect leaks at a rate of 0.0002% of line capacity, a probability of detection (PD) of 95%, and probability of a false alarm (PFA) of 5%.

## **2.0 INTEGRITY TESTING AND RESULTS**

HCNA test report is provided in Appendix A. The JP-8 Refueling System(s) was integrity tested with no detectable leak above the test method's minimum detectable leak rate of 0.002% of line capacity. Test results are listed in Table 2.



**Table 2 – Integrity Test Results**

<i>Section No.</i>	<i>Designation</i>	<i>Length {ft}</i>	<i>Volume {gal}</i>	<i>Certified MDLR [gal/h]</i>	<i>Recorded Leak Rate [gal/h]</i>	<i>Test Date</i>	<i>Result</i>
1	Hyd.B,Tks.1732, 1772, HSB FS	13,080	91,236	3.65	-0.23	6/15/09	PASS
2	Hyd.C,Tks.1770, 1777, HSV	8,141	56,977	2.28	0.91	6/16/09	PASS
3	F-C-H Transfer	8,238	21,409	0.86	0.68	6/16/09	PASS
4	Hyd. G	4,195	48,775	1.95	0.93	6/16/09	PASS
5	F-B-G Transfer w/B TRL	18,113	47,072	1.88	0.26	6/15/09	PASS
6	Area F – Meter Station	5,400	14,034	0.56	0.44	6/23/09	PASS
7	Suisun – Meter Station	32,633	92,602	3.70	-0.09	6/23/09	PASS
8	Hyd. H	8,089	57,941	2.32	0.03	6/24/09	PASS

### **3.0 CONCLUSIONS AND RECOMMENDATIONS**

#### **3.1 Conclusions**

JP-8 Refueling System(s) passed 3<sup>rd</sup> *Quarter* integrity testing.

#### **3.2 Recommendations**

Travis AFB should continue to operate the JP-8 Refueling System(s) in accordance with all Federal, State, and local regulations. In accordance with LG 151-3 and the requirements of the county of Solano County Department of Environmental Health, Hazardous Material Division (HMD) the JP-8 Refueling System(s) should be retested before the end of the fourth quarter 2009.

**APPENDIX A: Hansa Consult of North America, LLC Test  
Report**



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	<h2 style="margin: 0;">Leak Detection Certification</h2>
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**Location:** Travis AFB, CA

**Date:** June 29, 2009

**Customer:** Michael Baker Jr., Inc.

Project No.: 2009 269

**General Pipeline Configuration Data:**

SECTION No.	DESIGNATION	PIPELINE MATERIAL	PIPELINE SCHEDULE	PIPELINE LENGTH [ft]						TOTAL LENGTH [ft]
				6"	8"	12"	14"	16"	18"	
1	Hydrant B, Tanks 1732,1772, HSV, Fillstand	SS	STD.	-	752	-	11,908	420	-	13,080
2	Hydrant C, Tanks 1770,1777, HSV	SS	STD.	-	415	-	7,486	240	-	8,141
3	F-C Transfer Line	CS	STD.	-	8,238	-	-	-	-	8,238
4	Hydrant G	AL	STD.	-	75	-	-	-	4,120	4,195
5	F-B-G Transfer w/ B TRL	CS	STD.	-	18,113	-	-	-	-	18,113
6	Area F – Meter Station	CS	STD.	-	5,400	-	-	-	-	5,400
7	Suisun - Meter Station	CS	STD.	-	32,633	-	-	-	-	32,633
8	Hydrant H	CS	STD.	-	-	-	8,089	-	-	8,089
<b>TOTAL:</b>				0	65,626	0	19,394	660	4,120	97,889

**Table 1: General Pipeline Configuration Data @ Travis AFB System**

**Legend:**

- CS: Carbon Steel
- SS: Stainless Steel
- AL: Aluminum
- STD: Standard Schedule

**Certification Test Data:**

SECTION No.	DESIGNATION	TOTAL LENGTH [ft]	SECTION VOLUME [gal]	CERTIFIED MDLR [gal/h]	RECORDED LEAK RATE [gal/h]	TEST DATE	RESULT
1	Hydrant B, Tanks 1732,1772, HSV, Fillstand	13,080	91,236	3.65	-0.26	06/15/2009	PASS
2	Hydrant C, Tanks 1770,1777, HSV	8,141	56,977	2.28	0.91	06/16/2009	PASS
3	F-C-H Transfer Line	8,238	21,409	0.86	0.68	06/16/2009	PASS
4	Hydrant G	4,195	48,775	1.95	0.93	06/16/2009	PASS
5	F-B-G Transfer w/ B TRL	18,113	47,072	1.88	0.26	06/15/2009	PASS
6	Area F – Meter Station	5,400	14,034	0.56	0.44	06/23/2009	PASS
7	Suisun - Meter Station	32,633	92,602	3.70	-0.09	06/23/2009	PASS
8	Hydrant H	8,089	57,941	2.32	0.03	06/24/2009	PASS

**Table 2: Leak Detection Sections @ Travis AFB System**

**RESULT CRITERIA:**

PASS: Test results were within the stated tolerance threshold.

FAIL: Test results were not within the stated tolerance threshold.

Hansa Consult of North America, LLC (HCNA) certifies that the piping listed in the above table has been tested by means of the HCNA Leak Detection System, which meets the criteria set forth in U.S. EPA/530/UST-90/010 for precision leak test.

HCNA certifies that this piping was tested on the date(s) and with the result(s) stated in the above table and as per attached test protocols.

According to EPA's *Standard Test Procedures for Evaluating Leak Detection Methods: Pipeline Leak Detection Systems*, the HCNA Leak Detection System method is capable of detecting leaks of 0.002% of line capacity with a probability of detection ( $P_D$ ) of 95% and a probability of false alarm ( $P_{FA}$ ) of 5%, as per Ken Wilcox Associates, Inc. Third Party Certification dated December 15, 2005.

Portsmouth, June 29, 2009

**APPENDIX B: Michael Baker Jr., Inc. Site Map**

