

## QUALITY VALIDATION (QV) REPORT

### Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	Leak Detection
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	N/A
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	02 DEC 2024
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

### VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
DLA	N/A	FOR System: TK 311 to Sump	FOR Line Tank S311 to Sump Valve (b) (3) Main Sump FOR tank
Repair Description	Perform Leak Detection test prior to residual fuel/tank cleaning ops on FOR Line and Main Sump FOR tank		DLA Source Contract Reference
Description of Contractor QC Method(s) Used	Multiple "Pressure Step" tests conducted on FOR piping. Differing volumes of "Simulated Leak" tests completed for data comparison. 48-hour precision mass measurement test for Main Sump FOR tank.		Contractor QC Records Reviewed Report Sheets attached
Description of QA Validation and Observations	FOR line: observed line pack, air content evaluations, line flushing, and witnessed "Pressure Step" testing. Reviewed and verified field test procedure to written methodology. Main Sump FOR tank: witnessed precision mass measurement test at points throughout 48-hour duration. Final acceptance by government. Date: 26 NOV 2024		

Rework Needed		Photo Record Attached		Repair Work Validated as Complete					
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	See Page 2.		<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

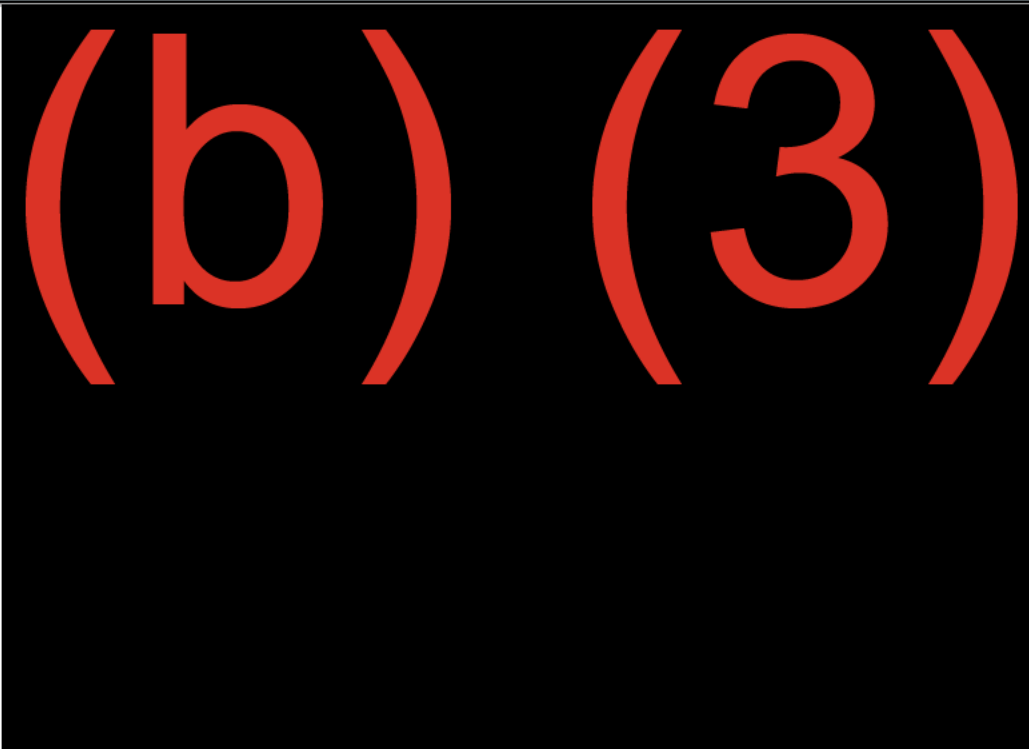
**Comments**  
 Initial line pack halted when air observed leaking at new Victaulic coupling. Gasket replaced, and the line was packed with water. The line was flushed with 1.5 pipe volumes into Tank S-311 with flow rates up to [redacted] to entrain air. A jumper line was deployed across the check valve to equalize pressure in the line. Contractor performed a leak detection test between Tank S-311 and (b) (3) targeting a Minimum Leak Detection Rate of 0.5 gallons per hour. A series of discrete "Pressure Step" tests were completed. The line was continually inspected throughout the test with no visible leaks. At Main Sump FOR tank, The tank was filled to ~95% fill height with water. A pressure probe was deployed to the tank, collecting precision mass measurements of the water column over a 48-hour duration. No leak indications noted.

### CERTIFICATION

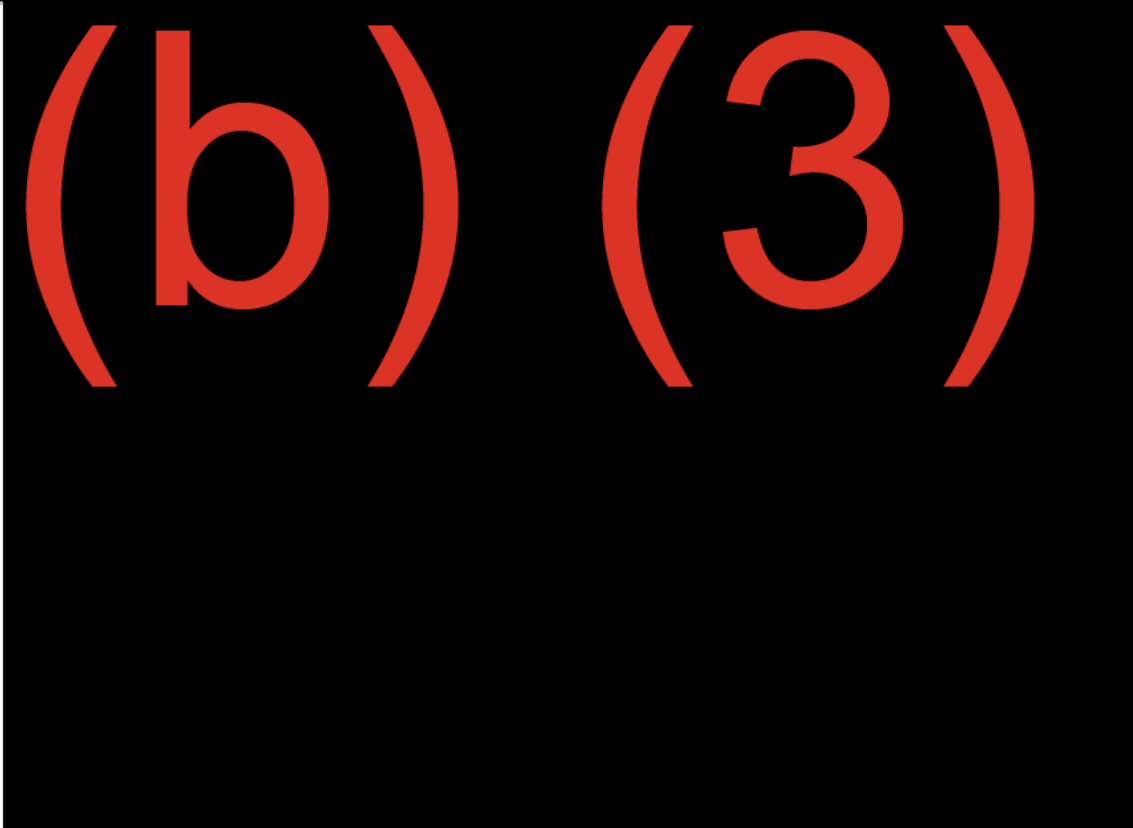
I hereby certify that repair work validated in this report was personally substantiated and this report is true.	<b>QV ENGINEER SIGNATURE</b>	(b) (6)
	<b>DATE</b>	02 DEC 2024

**QUALITY ASSURANCE VALIDATION REPORT**

**Red Hill Bulk Fuel Storage Facility Defuel**



Pump and test tree assembly outside Tank S311 for pressure step leak detection testing.



Precision mass measurements being collected across a 48-hour test duration at Main Sump FOR tank.

PEARL HARBOR - SECTION 1: TANK S311 TO SUMP VALVE (b) (3)				
ISOLATION	OPEN	CLOSED	LOCATION/COMMENTS	FIGURE
DBBV (b) (3)		X	Tank S311 Outside Tank Dike	1-1
BV	X		Outside Tank Dike S311 (b) (3)	1-2
BV (b) (3)	X		Inside (b) (3)	1-3
BV		X	Inside (b) (3)	1-4
BV (b) (3)	X		Inside (b) (3)	1-5
BV (b) (3)		X	Inside (b) (3)	1-6
Flushing Connections			Inside (b) (3)	1-6 & 1-7
Jumper around Check valve			Inside (b) (3)	1-8 & 1-9
TEST CONNECTION				FIGURE
1-1/2" Cam to 1/2 QD after (b) (3)				1-2
(b) (3)				

**October 15, 2024:**

HCNA arrived on site and in-briefed with personnel from Navy Closure Task Force, PPSI and the Baker representative. After being issued a work authorization form (WAF), HCNA established the test connection and setup to test the FOR line from Tank S311 while PPSI configured the Main Sump and (b) (3) connections. A new check valve was found to have been installed on the test section inside (b) (3) and a jumper was required to test around it. The supplies to make this jumper were not on hand and by the time they were procured a new WAF could not be issued for that day. The test connection and setup were removed, and testing was discontinued for the day.

**October 16, 2024:**

Arrived onsite and checked in with Navy Closure Task Force, PPSI and Baker personnel. PPSI had completed installing the Check Valve jumper the previous day and, once a WAF was issued, HCNA setup for testing/venting the section. The section was packed using the fire suppression at the main sump. A small leak was observed at a pipe clamp near the new check valve and packing the line was aborted. The line was drained, the clamp removed, and a new gasket installed at the clamp. Following the gasket repair, HCNA and PPSI packed the line using approximately (b) (3) of product and vented air at all high points. During venting (b) (3) was partially closed to help pack the line while large amounts of air were vented from the high point between (b) (3) and the entrance to (b) (3). Once completed, multiple leak detection tests were completed with satisfactory results. The valve to (b) (3) was opened and all product returned to the tank. PPSI removed the check valve jumper and water supply lines while HCNA removed the test connection, and all valves were returned to their original configurations. Site personnel were notified of the completion of testing and HCNA departed the site.



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### Leak Detection Certification

**Location:** JBPHH Red Hill **Date:** October 17, 2024  
**Customer:** Michael Baker International **Project No.:** 24-2472  
**Project:** HCNA Mobile Trailer Pipeline Testing  
 DLA Energy Leak Detection Centrally Managed Program

**General Pipeline Configuration Data:**

SECTION No.	DESIGNATION	PIPELINE MATERIAL	PIPELINE SCHEDULE	PIPELINE LENGTH [ft]						TOTAL LENGTH [ft]
				(b) (3)						
1		CS	STD.	0	0	3,489	0	0	0	3,489
<b>TOTAL:</b>				0	0	3,489	0	0	0	3,489

Table 1: General Pipeline Configuration Data of Tested Fuel System @ JBPHH Red Hill

**Legend:**  
 SS: Stainless Steel  
 CS: Carbon Steel  
 FG: Fiberglass  
 AL: Aluminum  
 STD: Standard Schedule

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### Leak Detection Certification

**Certification Test Data:**

SECTION No.	DESIGNATION	TOTAL LENGTH [ft]	SECTION VOLUME [gal]	REFERENCE PRESSURE [psi]	EPA MALDR <sup>1</sup> [GAL/H] <sup>2</sup>	HCNA LDS [VERSION]	TEST DATE	RESULT
1		3,489	(b)	68	0.50	V2.0	16-OCT-24	PASS

Table 2: Leak Detection Sections' Results of Tested Fuel System @ JBPHH Red Hill

**RESULT CRITERIA:**

PASS: Test results were within the stated EPA MALDR

FAIL: Test results exceed the stated EPA MALDR and/or unsatisfactory result was observed.

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.

The HCNA Leak Detection System method is capable of detecting leaks of 0.068 gallons per hour or 0.00078% of line volume contingent upon segment size and at a reference pressure of 145 psi, with a probability of detection (P<sub>D</sub>) > 95% and a probability of false alarm (P<sub>FA</sub>) < 5%; as per Ken Wilcox Associates, Inc. Third Party Certifications. Additionally, these methods were successfully evaluated at leak rates identified in 40 CFR 280.252 2015 EPA UST regulations.

In accordance with the above stated "Result Criteria for Classification of Tightness", statement of work requirements, and client direction, HCNA hereby certifies that this piping was tested on the date(s) and with the result(s) stated in the above table.

Portsmouth, New Hampshire, October 17, 2024

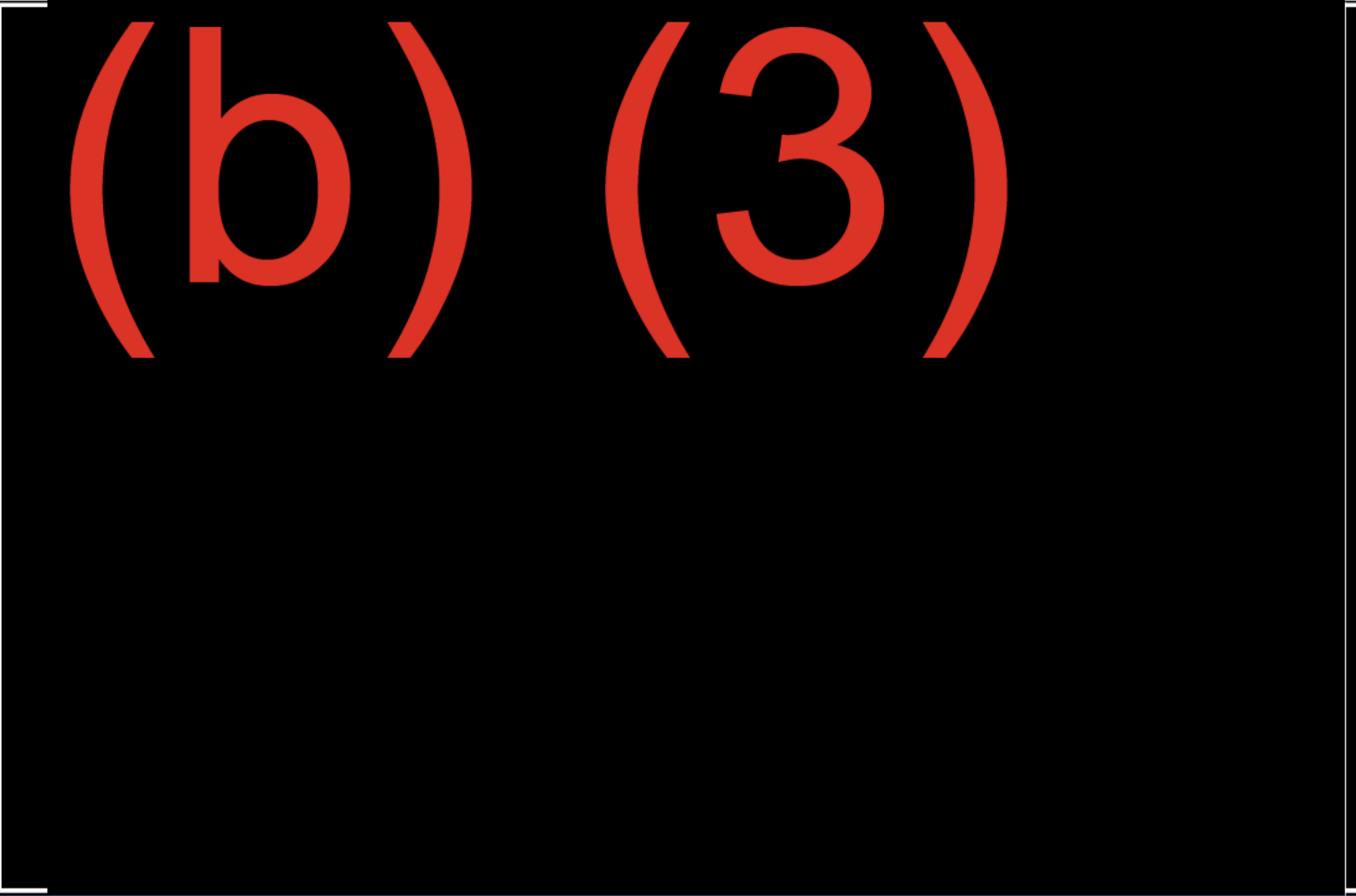


(b) (6)

<sup>1</sup> EPA 40 CFR 280 Subpart K - Maximum Allowable Leak Detection Rate (MALDR) Per Test Section Volume.

<sup>2</sup> Annual test - leak detection rate not to exceed - (EPA Maximum Allowable Leak Detection Rate/HCNA third-party certified).

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LOCATION/COMMENTS - JBP HH Red Hill	
Configuration Drawing	





Precision Leak Measurement Report  
P.O. Box 1578  
Kilgore, Texas 75662

FISC Red Hill  
Pearl Harbor, HI

Project Manager – (b) (6)

Site Supervisor – (b) (6)

Scope of Work: Furnish required management, labor, services, materials, and equipment to perform the required tightness testing of Main Sump (Tank 1 Area), an underground water storage tank located at FISC Red Hill, Pearl Harbor, HI.

Report compiled by: (b) (6)

Date: 11-1-2024

Summary

Testing of Main Sump (Tank 1 Area), a 425-gal underground storage tank located at FISC Red Hill, Pearl Harbor, Hawaii commenced October 15, 2024 and was completed October 17, 2024. The result of that testing is that the tank system is determined to be tight to isolation. Testing was performed using the Mass Technology Corporation protocols set out in the third party evaluations. All tank valves were adequately secured such that any fluid loss was isolated to leakage. Therefore, the containment integrity of the tank was not compromised and the test is considered conclusive.

Tank Main Sump (Tank 1 Area): After 48 hours of testing the result is tight.





**Tank Data Main Sump (Tank 1 Area)**

Dimensions: 34" L x 34" W  
Tank Type: Vertical UST  
Specific Gravity: 0.95

Height: 8.3 ft.  
Contents: water mix  
Product Level: 7.46 ft.

Start Date: 10-15-2024  
Unit Operator: (b) (6)

Completion Date: 10-17-2024  
Test Results: Certified Tight

Main Sump (Tank 1 Area)



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All dimensions, line locations, sizes and valve descriptions have been furnished by the facility operator.

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## Results

The fluid mass data was recorded over a 48-hour period. A linear regression of the recorded fluid mass data resulted in a change rate detected below the minimum detection level of 0.1 gallons per hour. All tank valves were adequately secured such that any fluid loss was isolated to leakage. Therefore, the containment integrity of the tank was not compromised and the test is considered conclusive.

(b) (3) is certified to be tight.

