

Joint Task Force-Red Hill

Monthly Quality Validation Working Group Meeting



27 April 2023

This brief is classified:

UNCLASSIFIED

Discussion up to:

UNCLASSIFIED

This presentation is pre-decisional and not subject to FOIA

(b) (3) (A)



BACKGROUND/DESCRIPTION

ENSURING A FREE AND OPEN INDO-PACIFIC

- On January 27, 2023, the Hawai'i Department of Health (DOH) conditionally approves the Independent Third-Party Quality Validation Plan, with the following conditions:
 - ~~Para #1, Provide resumes of those working QV (31 Jan) OUTSTANDING~~
 - ~~Para #2, Provide QV Plan Addendum detailing testing requirements that will follow repairs (28 Feb)~~
 - ~~Para #3a, Provide DoH/EPA our first monthly QV report (23 Feb)~~
 - Para #3b, Provide list of dates of major repair/inspection events that DoH/EPA can attend (23 Feb)
 - Para #4, Provide final report (last repair + 30 days)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
32	Tunnel wall leakage leading to coating and corrosion issues (b) (3) (A). Assess pipe integrity and repair pipe as appropriate.	19 Apr 23	(b) (3) (A)
33	(b) (3) (A) pipe with unknown crack in exterior surface. Assess pipe integrity and repair pipe as appropriate.	19 Apr 23	(b) (3) (A)
42	(b) (3) (A) carbon steel low point drain valve is located on (b) (3) (A). Valve classification is unknown. Replace valve with a Class 150 ball valve.	19 Apr 23	(b) (3) (A)
111	(b) (3) (A) ball valve located on the (b) (3) (A) pipeline is not plugged off. This valve is susceptible to being accidentally opened if something were to impact the ball valve handle causing it to open. Install plug.	19 Apr 23	(b) (3) (A)
116	The (b) (3) (A) tank isolation valve on the (b) (3) (A) has product staining on the valve body. This is indicative of a prolonged slow weep possibly from valve plugs in the body. Clean valve body and monitor for drips and weeps.	19 Apr 23	(b) (3) (A)
117	The (b) (3) (A) is constructed out of a combination of hard pipe and hoses. Replace connections and hoses with hard pipe.	19 Apr 23	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
120	Three temporary pipe clamps on (b) (3) (A) pipeline within trench (b) (3) (A). Pipe clamp lengths are (b) (3) (A). Also, UTT indicates pipe wall loss in this area over 55% metal loss is present. Repair pipe.	19 Apr 23	(b) (3) (A)
126	(b) (3) (A) low point drain valve is missing a plug. Provide plug on valve. Facility Personnel corrected this finding during our inspection.	19 Apr 23	(b) (3) (A)
127	(b) (3) (A) low point drain valve is missing a plug (b) (3) (A). Provide plug on valve. Facility Personnel corrected this finding during our inspection.	19 Apr 23	(b) (3) (A)
130	The (b) (3) (A) valve, located outside of the secondary containment, has a loose fastener. Tighten fastener.	21 Apr 23	(b) (3) (A)
132	Actively dripping, medium-high corrosion, metal to metal contact, corroded at pipe support interface, photo taken for how wall support should look, labeled by others. Replace support.	21 Apr 23	(b) (3) (A)
133	Highly corroded and deformed, no contact w/ pipe, labeled by (b) (4). Replace support.	21 Apr 23	(b) (3) (A)
134	Corroded, in contact w/ pipe, labeled by (b) (4). Replace support.	21 Apr 23	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
135	Corroded, intact, metal to metal contact, only top anchor to wall present, lower part of bracket not in contact w/ wall. Replace support.	21 Apr 23	(b) (3) (A)
136	Not supporting pipe, no anchorage to wall at top, metal to metal contact. API 570: Support anchor dislodged from tunnel wall. Replace support.	21 Apr 23	
137	No guide, support broken so pipe is at end of arm. API 570: Missing pipe clamp bolt (no isolation Teflon pad). Replace support.	21 Apr 23	
138	Bottom of bracket deformed from impact. Replace support.	21 Apr 23	
139	No contact w/ pipe. Replace support or modify support to properly support pipe.	21 Apr 23	
140	No contact w/ pipe. Replace support or modify support to properly support pipe.	21 Apr 23	
141	No sleeve on U-bolt, U-bolt corroded to delamination, significant corrosion at baseplate and anchors. Replace support.	21 Apr 23	
142	Front support flange bent from apparent impact, U-bolt displaced on pipe, not U-shaped. API 570: Loose U-bolt. Replace support.	21 Apr 23	



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
143	Support completely deformed, removed from baseplate. API 570: Damaged pipe support (impacted by a moving vehicle). Replace support.	21 Apr 23	(b) (3) (A)
187	Three separate corrosion findings ^{(b) (3) (A)} apart. (b) (3) (A) associated with pipe support. Remaining thickness < the structural minimum thickness per API 574. ^{(b) (3) (A)} , (b) (3) (A) are combined into one site. Fitness for service (FFS) assessment and repair if necessary.	3 Apr 23	
189	Dent with crease; Approximate dent depth measurement: 0.300". Dent located at bottom of a tee and has has a crease. Fails FFS Level 2 assessment. FFS assessment and repair if necessary.	3 Apr 23	
190	Corrosion under bubble coating. Not able to assess without coating removal. ^{(b) (3) (A)} , remove coating and inspect, FFS assessment and repair if necessary.	3 Apr 23	
191	Dent, crosses long seam. FFS assessment and repair if necessary.	3 Apr 23	
192	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
193	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
195	Double dent. FFS assessment and repair if necessary.	3 Apr 23	(b) (3) (A)
196	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
197	Dent, adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
198	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
199	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
200	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
201	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
202	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
203	Double dent. FFS assessment and repair if necessary.	3 Apr 23	



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
204	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	(b) (3) (A)
205	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
206	Double dent. FFS assessment and repair if necessary.	3 Apr 23	
207	Double dent. FFS assessment and repair if necessary.	3 Apr 23	
208	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
209	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
210	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
211	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
212	Double dent. FFS assessment and repair if necessary.	3 Apr 23	



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
213	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	(b) (3) (A)
214	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
215	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
216	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.	3 Apr 23	
217	Dent, on long seam. FFS assessment and repair if necessary.	3 Apr 23	
218	Poor Ultrasonic Reading; Crosses Long Seam. Estimated Depths of 25.4% and 27.4%; (b) (3) (A), remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	
219	ILI data reports metal loss of 31.5%. Not able to assess without coating removal (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	
220	ILI data reports metal loss of 32.0%. Not able to assess without coating removal. (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
222	Metal loss of 33.0%. Not able to assess without coating removal. (b) (3) (A), remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	(b) (3) (A)
223	Heavy corrosion reported under sleeve from ILI data. Heavy corrosion also on sleeve, ILI data reports metal loss of 45.8%, Sleeve is (b) (3) (A) wide. Corrosion extends through long seam on sleeve. Need coating removed to assess. (b) (3) (A), remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	
224	Dent/gouge measured 0.130" (0.120" dent + 0.010" gouge). FFS assessment and repair if necessary.	3 Apr 23	
225	Dent/gouge measured 0.180" (0.160" dent + 0.020" gouge). FFS assessment and repair if necessary.	3 Apr 23	
226	Metal loss of 43%. Not able to assess without coating removal. (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	
227	Pitting estimated at 0.050". Not able to assess without coating removal. (b) (3) (A), remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
228	Pitting estimated at 0.050". Not able to assess without coating removal. ^{(b) (3) (A)} [REDACTED], remove coating and inspect. FFS assessment and repair if necessary.	3 Apr 23	(b) (3) (A)
229	Dent with depth of 0.165". FFS assessment and repair if necessary.	3 Apr 23	
230	Dent with depth of 0.145". FFS assessment and repair if necessary.	3 Apr 23	



Rework - Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location

Rework Pending: #114



Relief - Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location

Seeking Repair Relief: #006, UGPH



Transition to Microsoft Teams

ENSURING A FREE AND OPEN INDO-PACIFIC

QUALITY VALIDATION (QV) REPORT			
Red Hill Bulk Fuel Storage Facility Defuel			
Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	xx FEB 2023
QV Engineer	(b) (6)		
VALIDATION			
Source	PDF Page No.	Facility Geographic Area	Location Reference
Repair Description	Codes & Criteria:		Source Contract Reference
Description of Contractor QC Method(s) Used			Contractor QC Records Reviewed
Description of QA Validation and Observations	Final acceptance by government. Date:		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Yes	<input checked="" type="radio"/> No
Comments			
CERTIFICATION			
I hereby certify that repair work validated in this report was personally substantiated and this report is true.		QV ENGINEER SIGNATURE	
		DATE	xx FEB 2023

QUALITY ASSURANCE VALIDATION REPORT	
Red Hill Bulk Fuel Storage Facility Defuel	
Caption:	
Caption:	



Testing & Inspection Dates

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Testing & Inspection Dates	Date	Location
1	(b) (3) (A) Test #2 (36-hour test)	3-5 May 23	(b) (3) (A)
2			
3			
4			



Around the Horn

ENSURING A FREE AND OPEN INDO-PACIFIC

AGENCIES:

- NAVAL FACILITIES ENGINEERING SYS COMMAND-HAWAII (NAVFAC-HI)
- JOINT TASK FORCE-RED HILL (JTF-RH)
- ENVIRONMENTAL PROTECTION AGENCY (EPA)
- DEPARTMENT OF HEALTH (DOH)
- FLEET LOGISTIC CENTER-PEARL HARBOR (FLC-PH)
- DEFENSE LOGISTIC AGENCY (DLA)
- COMMANDER, NAVY REGION-HAWAII (CNR-HI)
- ENGINEERING AND EXPEDITIONARY WARFARE CENTER (EXWC)
- NAVY-OTHER

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	32
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) HT.03
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	393	(b) (3) (A)	(b) (3) (A)
Repair Description	Tunnel wall leakage leading to coating and corrosion issues at (b) (3) (A) Assess pipe integrity and repair pipe as appropriate.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	(b) (4), (b) (5) Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed (b) (4)
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		

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
JTF-RH/QV confirmed back side of pipe has been coated, MAR 2023.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

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Delaminated Coating Before Repair

(b) (3) (A)

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Pipe after cleaning and coating.

(b) (4)

(b) (4)

June 28, 2022

Inspection of Red Hill Fuel Oil (b) (3) (A)

Introduction

(b) (4) was contracted to perform a visual evaluation of Red Hill Fuel Reclamation Line (b) (3) (A). This inspection included visually inspecting the (b) (3) (A) pipeline for external conditions such as active corrosion, pitting, dents, and / or physical damage. This inspection defined the corrosion and pitting into three category levels.

- 1 – Minor; corrosion and / or pitting is measured to be <20% of pipe wall thickness
- 2 – Moderate; corrosion and / or pitting is measured to be >20% but <50% of pipe wall thickness
- 3 – Severe; corrosion and / or pitting is measured to be at 50% or greater of pipe wall thickness.

Summary of Findings

FOR Coating (b) (3) (A) was a required defueling repair & was completed as Repair #32.

- Stations (b) (3) (A) Needs proper cleaning and recoating on all bare piping.

(b) (4)

06/28/22
Page 2 of 6

[Redacted]

Recommendations

• (b) (5)
•

[Redacted]

If you have any questions or concerns regarding this inspection, please feel free to contact me at [Redacted]

Respectfully,

(b) (6)

NDE Level II

[Redacted]

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	33
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) HT.06
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	HT-6	(b) (6)	(b) (3) (A)
Repair Description	FOR pipe with unknown crack in exterior surface. Assess pipe integrity and repair pipe as appropriate.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	(b) (5), (b) (4) Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed (b) (4) inspection reports, 28 JUN 2022 and 10 AUG 2022.
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		
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

JTF-RH/QV confirmed back side of pipe has been coated, MAR 2023.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Before repair

(b) (3) (A)

After cleaning and coating

(b) (4)

(b) (4)

June 28, 2022

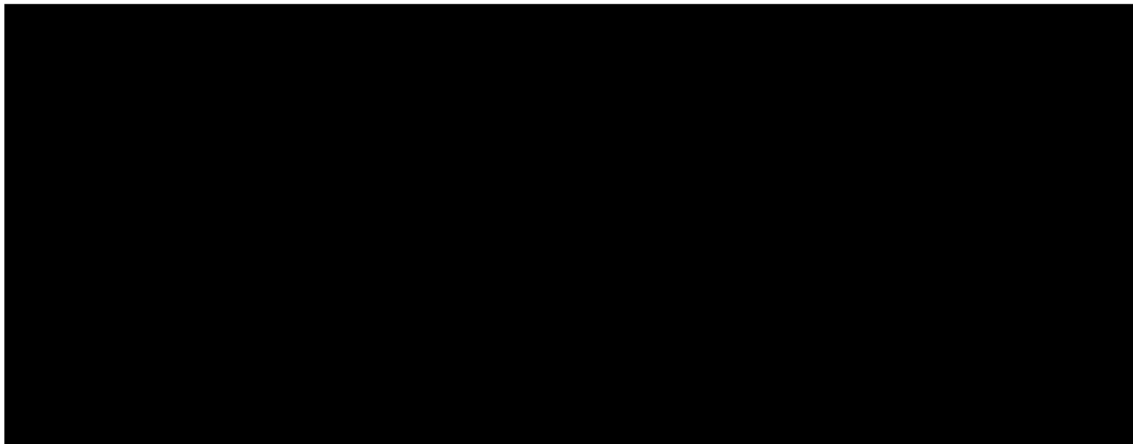
Inspection of Red Hill Fuel Oil Reclamation (b) (3) (A)
(b) (3) (A)

Introduction

(b) (4) was contracted to perform a visual evaluation of Red Hill Fuel Reclamation Line (FOR) (b) (3) (A). This inspection included visually inspecting the (b) (3) (A) pipeline for external conditions such as active corrosion, pitting, dents, and / or physical damage. This inspection defined the corrosion and pitting into three category levels.

- 1 – Minor; corrosion and / or pitting is measured to be <20% of pipe wall thickness
- 2 – Moderate; corrosion and / or pitting is measured to be >20% but <50% of pipe wall thickness
- 3 – Severe; corrosion and / or pitting is measured to be at 50% or greater of pipe wall thickness.

Summary of Findings



(b) (4)

06/28/22
Page 2 of 6

(b) (3) (A)
required defueling repair & was
completed as Repair #33.

- (b) (3) (A) Showed Moderate to severe pitting and corrosion. Pipe support and U-bolts need removed for further evaluation.

[Redacted]

Ultrasonic thickness readings were taken along the pipe, during this inspection, at random areas. All readings were equated to (b) (3) (A)

Recommendations

(b) (5)

[Redacted]

If you have any questions or concerns regarding this inspection, please feel free to contact me at [Redacted]

Respectfully,

(b) (6)

[Redacted]

NDE Level II

[Redacted]

(b) (4)

(b) (4)

Structural Client: NAVSUP
 Pipe Casting Report No.: GS081022
 Tank No.: _____ Job No.: 22-133
Material Type: CS PO No.: _____
Weld Type: Fillet Butt Lap Other: Piping
Drawing No.: ISOMETRIC DRAWING Sheet No.: _____ Rev.: _____
Location: Red Hill (b) (3) (A) Shop Field
Surface Condition: In service Stage of Mfg.: Completed
Specifications: Customer Acceptance Std.: Customer Specified
Gauges: _____

Item (s)	Accept	Reject	Sketch / Notes
(b) (3) (A)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Light pitting and corrosion
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

(b) (5)

Performed By: _____ WT LVLII Date: 08/10/2022
Reviewed By: _____ Date: _____

(b) (4)

08/15/22
Page 2 of 3

(b) (3) (A)

Light pitting and corrosion

[Redacted]

(b) (4)

08/15/22
Page 3 of 3

(b) (3) (A)

Light pitting and corrosion

[Redacted]

(b) (4)

Form NDT 004.12 Rev. 0 (03/01/01)

ULTRASONIC EXAMINATION REPORT

Page 1
Date: 08/10/2022

<u>COMPANY/LOCATION</u> NAVSUP/Red Hill		<u>SYSTEM/COMPONENT</u> Red Hill Fuel oil reclamation pipeline/ Main sump	
<u>Instrument</u> Model Panametrics 37DL S/N: 051328911	<u>Search Unit</u> Brand: Panametrics 37DL S/N: 183154603 Size: 0.312 Freq: 5mhz Single: <input type="checkbox"/> Dual: <input checked="" type="checkbox"/>	<u>Couplant</u> Type: Glycerin Batch: NPD-053-8007	
<u>Calibration Block</u> Steel: .100" – 0.500" SN: 140919-35			
Items or welds examined: Red Hill FOR Pipeline			
<p>(b) (3) (A)</p>			
Examiner: [REDACTED]	Level: II	Date: August 10, 2022	
Reviewed By:		Date:	



QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	42
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.012
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	41	(b) (3) (A)	(b) (3) (A)
Repair Description	(b) (3) (A)		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Valve with unknown pressure class

(b) (3) (A)

New Class 150 ball valve

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	111
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.004
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	66	(b) (3) (A)	Tank 18
Repair Description	(b) (3) (A) ball valve located on the (b) (3) (A) pipeline is not plugged off. This valve is susceptible to being accidentally opened if something were to impact the ball valve handle causing it to open. Install plug.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		
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

Rather than installing a plug, a new blind flange was provided with no valve connected. This repair provides additional protection against unintended operation or weeps.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Valve without plug

(b) (3) (A)

Provided blind flange with no valve.

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.		Repair No.	114	
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112		Repair ID	FOR.021	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	02 MAY 2023	
QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference					
NDAAs	67	(b) (3) (A)	Tank 16					
Repair Description	Tank isolation valve on the (b) (3) (A) has one fastener that is not fully engaged. Replace fastener.		Source Contract Reference	N/A for in-house labor.				
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed	N/A				
Description of QA Validation and Observations	Validated complete by JTF-RH/QV 28APR 2023. Final acceptance by government. Date: 26 APR 2023							
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	02 MAY 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Bolt threads not fully engaged

(b) (3) (A)

Photo collected 28 APR 23 - Bolt replaced

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	116
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.025
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	67	(b) (3) (A)	Tank 15
Repair Description	The (b) (3) (A) pipeline has product staining on the valve body. This is indicative of a prolonged slow weep possibly from valve plugs in the body. Clean valve body and monitor for drips and weeps.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		
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

JTFRH/QV performed visual inspection 03 MAR 23. Valve body has aged stains and loose corrosion product. Work item is incomplete.

Additional cleaning was provided. Valve was reexamined 16 MAR 23 and found acceptable.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Staining on valve body, especially near plug.

(b) (3) (A)

Stains removed from valve

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Absorbent pads deployed for weep monitoring. Threads dry to touch 28-APR-23.

(b) (3) (A)

Body cavity port sealed with threaded plug and sealant. Threads dry to touch 28-APR-23.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	117
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.026
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	67	(b) (3) (A)	(b) (3) (A)
Repair Description	The (b) (3) (A) connection from the product lines is constructed out of a combination of hard pipe and hoses. Replace connections and hoses with hard pipe.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel; technician and supervisor.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. FLC personnel inspected and accepted repair on 13 Apr 23. Final acceptance by government. Date: 13 APR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

L: Flex hose from pipeline high point vent R: Pipe with hose connections into (b) (3) (A)

(b) (3) (A)

L: Line from (b) (3) (A) R: Pipe with hose connections into (b) (3) (A) removed.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	120
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.044
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	68	(b) (3) (A)	(b) (3) (A)
Repair Description	(b) (3) (A) temporary pipe clamps on (b) (3) (A) (b) (3) (A) Pipe clamp lengths are (b) (3) (A) (b) (3) (A) Also, UTT indicates pipe wall loss in this area over 55% metal loss is present. Repair pipe.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTFRH/QV visually inspected 29 MAR 2023. Final acceptance by government. Date: 13 APR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Compromised piping with pipe clamps

(b) (3) (A)

Completed Repair

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Absorbent pads deployed for weep monitoring. Threads dry to touch 28-APR-23.

(b) (3) (A)

Body cavity port sealed with threaded plug and sealant. Threads dry to touch 28-APR-23.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Absorbent pads deployed for weep monitoring. Threads dry to touch 28-APR-23.

(b) (3) (A)

Body cavity port sealed with threaded plug and sealant. Threads dry to touch 28-APR-23.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	126
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.056
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	69	(b) (3) (A)	(b) (3) (A)
Repair Description	(b) (3) (A) valve is missing a plug. Provide plug on valve.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Low point drain valve with no plug.

(b) (3) (A)

Valve with plug provided.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	127
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.057
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	19 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	69	(b) (3) (A)	(b) (3) (A) Entrance
Repair Description	(b) (3) (A) low point drain valve is missing a plug under the (b) (3) (A) Provide plug on valve.		Source Contract Reference N/A for in-house labor.
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	(b) (4) site visit comments issued 21 FEB 2023. Final acceptance by government. Date: 13 APR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	19 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Drain valve with no plug.

(b) (3) (A)

Valve with plug installed.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	130
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.064
Contract No.	FA890315D0007, D.O. FA8903 19 F 0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	69	(b) (3) (A)	(b) (3) (A)
Repair Description	The (b) (3) (A) valve, located outside of the secondary containment, has a loose fastener. Tighten fastener.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

Valve was removed and reinstalled in new piping by Repair 128.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE 26 APR 2023	

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Loose fastener

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	132
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.013
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Actively dripping, medium-high corrosion, metal to metal contact, corroded at pipe support interface, photo taken for how wall support should look, labeled by others. Replace support.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Before photo not available

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	133
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.014
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Highly corroded and deformed, no contact w/ pipe, labeled b(b) (4) Replace support.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Before photo not available

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	134
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.015
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Corroded, in contact w/ pipe, labeled by (b) (4). Replace support.		Source Contract Reference
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed
Description of QA Validation and Observations	Methods outlined in QASP.		
	Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/>
			Yes
			<input type="radio"/>
			No

Comments

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	135
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.016
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Corroded, intact, metal to metal contact, only top anchor to wall present, lower part of bracket not in contact w/ wall. Replace support.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

(b) (3) (A) New clamp

(b) (3) (A)

(b) (3) (A) New and Old Supports

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	136
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.042
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Not supporting pipe, no anchorage to wall at top, metal to metal contact. API 570: Support anchor dislodged from tunnel wall. Replace support.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	137
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.060
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	No guide, support broken so pipe is at end of arm. API 570: Missing pipe clamp bolt (no isolation Teflon pad). Replace support.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Before photo not available

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	138
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.061
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Bottom of bracket deformed from impact. Replace support.		Source Contract Reference
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed
Description of QA Validation and Observations	Methods outlined in QASP.		
	Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

(b) (3) (A) Old and New Supports

(b) (3) (A)

(b) (3) (A) Old and New Supports

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	139
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.087
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	No contact w/ pipe. Replace support or modify support to properly support pipe.		Source Contract Reference N/A
Description of Contractor QC Method(s) Used	N/A - no work performed.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved 20 APR 2023. Final acceptance by government. Date: 08 MAR 2023		
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

Not required. Existing new (b) (3) (A) replaces (b) (3) (A) with sufficient spacing between (b) (3) (B)
 (b) (3) (A) Work pre-validated as complete 11/21/22.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Before photo not available

(b) (3) (A)

New support at **(b) (3) (A)**

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	140
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.089
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	No contact w/ pipe. Replace support or modify support to properly support pipe.		Source Contract Reference
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed
Description of QA Validation and Observations	Methods outlined in QASP.		
	Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Before photo not available

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	141
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.169
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	No sleeve on U-bolt, U-bolt corroded to delamination, significant corrosion at baseplate and anchors. Replace support.		Source Contract Reference [REDACTED]
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Old and New Supports

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	142
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.234
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Front support flange bent from apparent impact, U-bolt displaced on pipe, not U-shaped. API 570: Loose U-bolt. Replace support.		Source Contract Reference
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed
Description of QA Validation and Observations	Methods outlined in QASP.		
	Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/>
<input type="radio"/>	Yes	<input type="radio"/>	No

Comments

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	143
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSF.238
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	26 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	71	(b) (3) (A)	(b) (3) (A)
Repair Description	Support completely deformed, removed from baseplate. API 570: Damaged pipe support (impacted by a moving vehicle). Replace support.		Source Contract Reference
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed
Description of QA Validation and Observations	Methods outlined in QASP.		
	Final acceptance by government. Date: 08 MAR 2023		
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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	26 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Before repair

(b) (3) (A)

Completed Repair

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	187
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.01
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	(b) (3) (A) associated with pipe support.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	189
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.03
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent with crease; Approximate dent depth measurement: 0.300". Dent located at bottom of a tee and has a crease. Fails FFS Level 2 assessment. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	190
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.04
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Corrosion under bubble coating. Not able to assess without coating removal (b) (3) (A) remove coating and inspect, FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) s. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 190 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.			Repair No.	191
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112			Repair ID	JP5.A21.05
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027			Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference					
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)					
Repair Description	Dent, crosses long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207					
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A					
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023							
Rework Needed		Photo Record Attached	Repair Work Validated as Complete					
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	N/A	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	192
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.06
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	193
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.07
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	195
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.09
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Double dent. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	196
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.10
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	197
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.11
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE DATE	(b) (6) 05 APR 2023
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QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	198
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.12
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	199
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.13
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	200
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.14
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	201
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.15
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	202
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.16
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE DATE	(b) (6) 05 APR 2023
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QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	203
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.17
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Double dent. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	204
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.18
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	205
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.19
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	206
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.20
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Double dent. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	207
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.21
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Double dent. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	208
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.22
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	209
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.23
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	210
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.24
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	211
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.25
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	212
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.26
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Double dent. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	213
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.27
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	214
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.28
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	215
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.29
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	216
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.30
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Geometric anomaly adjacent to girth weld. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	217
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.31
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent, on long seam. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	218
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.32
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Poor Ultrasonic Reading; Crosses Long Seam. Estimated (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)
	DATE 05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 218 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	219
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.33
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference					
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)					
Repair Description	ILI data reports metal loss of 31.5%. Not able to assess without coating removal (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207					
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A					
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023							
Rework Needed		Photo Record Attached	Repair Work Validated as Complete					
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	N/A	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 219 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	220
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.34
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	ILI data reports metal loss of 32.0%. Not able to assess without coating removal. (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

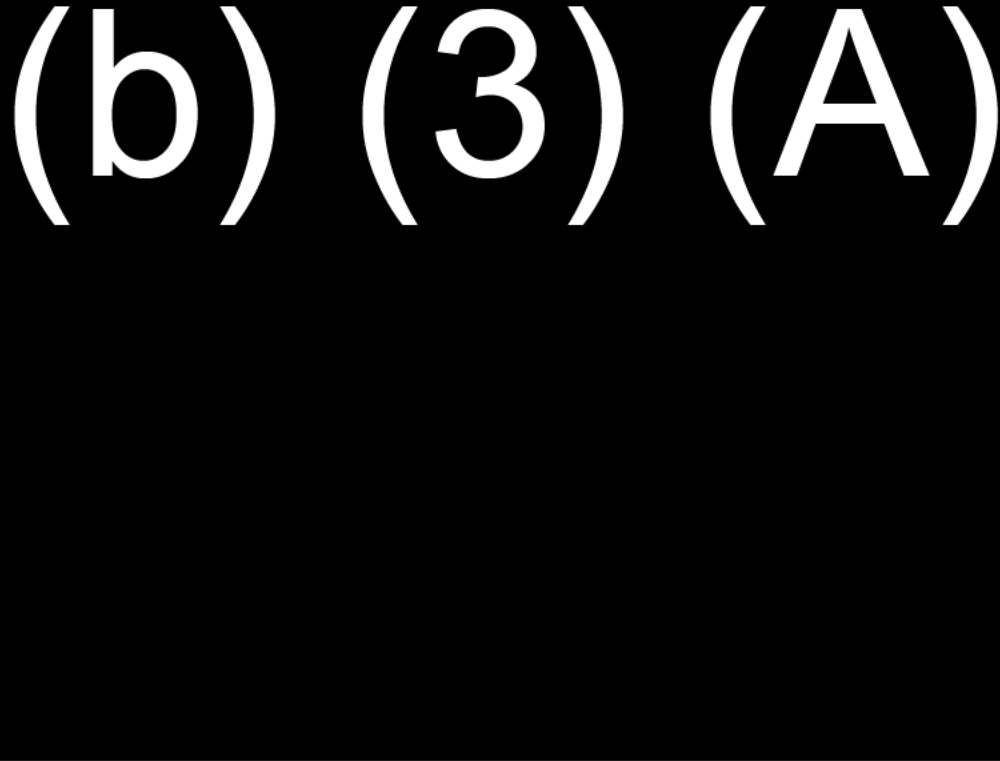
Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Repair 220 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	222
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.36
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Metal loss of 33.0%. Not able to assess without coating (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE 05 APR 2023	

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Coatings removed for FFS at Repair 222. Markings indicate location, reference ID, inspection date, and inspection type.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	223
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.37
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Heavy corrosion reported under sleeve from ILI data. Heavy corrosion also on sleeve, ILI data reports metal loss of 45.8%, Sleeve is (b) (3) (A). Corrosion extends through long seam on sleeve.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	N/A	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

Comments
 Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.
 FFS performed, no repair required for defuel.
 Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 223 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	224
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.38
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent/gouge measured 0.130" (0.120" dent + 0.010" gouge). FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	225
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.39
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent/gouge measured 0.180" (0.160" dent + 0.020" gouge). FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	226
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.42
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Metal loss of 43%. Not able to assess without coating removal. (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A) Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 226 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	227
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.43
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Pitting estimated at 0.050". Not able to assess without coating removal (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 227 markings indicate location, reference ID, inspector, inspection date, inspection type and results.

(b) (3) (A)

Repair 227 with (b) (3) (A) of coating removed for FFS inspection.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	228
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.44
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Pitting estimated at 0.050". Not able to assess without coating removal (b) (3) (A) remove coating and inspect. FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repair 228 markings indicate reference ID, inspector, inspection date, inspection type and results.

(b) (3) (A)

Repair 228 with (b) (3) (A) of coating removed for FFS inspection.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	229
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.46
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)
Repair Description	Dent with depth of 0.165". FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	230
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.47
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	05 APR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference					
EXWC	EXWC Recommendation	(b) (3) (A)	(b) (3) (A)					
Repair Description	Dent with depth of 0.145". FFS assessment and repair if necessary.		Source Contract Reference N3943020D2225 TO N3943021F4207					
Description of Contractor QC Method(s) Used	N/A - no work provided.		Contractor QC Records Reviewed N/A					
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023							
Rework Needed		Photo Record Attached	Repair Work Validated as Complete					
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	N/A	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill (b) (3) (A). Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	05 APR 2023

ID	Source	Product	Source ID Cross Ref	(b) (4) Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Repair #187 JPS A21.01	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Three separate corrosion findings < 1/8 ft apart, (b) (3) (A) associated with pipe support. Remaining thickness < the structural minimum thickness per API 574.	Urgent	(b) (3) (A) are combined into one site. Fitness for service (FFS) assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JPS A21.02	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Corrosion at bulkhead. Three separate features. Reported corrosion depths 26.8%, 30.8%, and 38.0%. Remaining thickness < minimum thickness per API 574.	Urgent	Remove, provide, and install (b) (3) (A) pup piece to eliminate the corroded areas in the bulkhead. One repair for (b) (3) (A).	A		FY21EPRC	Y	N	Medium
Repair #189 JPS A21.03	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent with crease; Approximate dent depth measurement: 0.300". Dent located at bottom of a tee and has a crease. Fails FFS Level 2 assessment.	Urgent	FFS assessment	A	[JPS (b) (3) (A)]; FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #190 JPS A21.04	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Corrosion under bubble coating. Not able to assess without coating removal.	Urgent	1/8-ft, remove coating and inspect, FFS assessment	A	[JPS (b) (3) (A)]; FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #191 JPS A21.05	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, crosses long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #192 JPS A21.06	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #193 JPS A21.07	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JPS A21.08	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed with failed result. Repair required. Temporary means acceptable for defuel	FY21EPRC	N	N	Serious
Repair #195 JPS A21.09	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Double dent	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #196 JPS A21.10	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #197 JPS A21.11	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #198 JPS A21.12	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #199 JPS A21.13	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #200 JPS A21.14	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #201 JPS A21.15	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #202 JPS A21.16	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #203 JPS A21.17	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Double dent	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #204 JPS A21.18	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #205 JPS A21.19	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #206 JPS A21.20	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	Double dent	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium

ID	Source	Product	Source ID Cross Ref	(b) (4) Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
Repair #207 JPS A21.21	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Double dent	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #208 JPS A21.22	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #209 JPS A21.23	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #210 JPS A21.24	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #211 JPS A21.25	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #212 JPS A21.26	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Double dent	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #213 JPS A21.27	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #214 JPS A21.28	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #215 JPS A21.29	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #216 JPS A21.30	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Geometric anomaly adjacent to girth weld	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #217 JPS A21.31	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent, on long seam	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #218 JPS A21.32	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Poor Ultrasonic Reading; Crosses Long Seam. Estimated Depths of 25.4% and 27.4%;	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #219 JPS A21.33	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			ILI data reports metal loss of 31.5%. Not able to assess without coating removal.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #220 JPS A21.34	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			ILI data reports metal loss of 32.0%. Not able to assess without coating removal.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JPS A21.35	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Two separate corrosion findings < 6 ft apart. Remaining thickness < the minimum thickness per API 574.	Urgent	FFS assessment	A	FFS performed with failed result. Repair required. Temporary means acceptable for defuel.	FY21EPRC	N	N	Serious
Repair #222 JPS A21.36	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Metal loss of 33.0%. Not able to assess without coating removal.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #223 JPS A21.37	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Heavy corrosion reported under sleeve from ILI data. Heavy corrosion also on sleeve, ILI data reports metal loss of 45.8%, Sleeve is 1/4 ft wide. Corrosion extends through long seam on sleeve. Need coating removed to assess.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #224 JPS A21.38	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent/gouge measured 0.130" (0.120" dent + 0.010" gouge)	Urgent	FFS assessment	A	[JPS (b) (3) (A)] FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #225 JPS A21.39	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent/gouge measured 0.180" (0.160" dent + 0.020" gouge)	Urgent	FFS assessment	A	(b) (3) (A) FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JPS A21.40	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent has crease, crosses over long seam, measured depth of 0.275" Fails FFS Level 2 assessment.	Urgent	(b) (3) (A) chop to eliminate the dent.	A	(b) (3) (A) (b) (4) has notified this repair has been completed 01/2/2018 under the 2017 EEI repair ;repair (b) (3) (A) ID JPS (b) (3) (A)	N/A	Dup		
JPS A21.41	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent/gouge measured 0.190" (0.160" dent + 0.030" gouge)	Urgent	(b) (3) (A) chop piece to eliminate the dent/gouge.	A	[JPS (b) (3) (A)] (b) (4) duplicate repair covered by [JPS (b) (3) (A)] (b) (3) (A)	N/A	Dup		
Repair #226 JPS A21.42	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Metal loss of 43%. Not able to assess without coating removal.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	[JPS (b) (3) (A)] FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #227 JPS A21.43	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Pitting estimated at 0.050". Not able to assess without coating removal.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	(b) (3) (A) FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
Repair #228 JPS A21.44	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Pitting estimated at 0.050". Not able to assess without coating removal.	Urgent	(b) (3) (A) remove coating and inspect. FFS assessment	A	[JPS (b) (3) (A)] FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JPS A21.45	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Corrosion at (b) (3) (A) Pitting measured at 0.080". Additional pitting (b) (3) (A) measured at 0.100".	Urgent	N/A	A	(b) (3) (A)	FY21EPRC	Dup		
Repair #229 JPS A21.46	2017 EEI	JPS	(b) (3) (A)	(b) (3) (A)			Dent with depth of 0.165".	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium

ID	Source	Product	(b) (3) (A)	(b) (4) Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
Repair #230 JP5 A21.47	2017 EEI	JP5	(b) (3) (A)		(b) (3) (A)		Dent with depth of 0.145".	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JP5 A21.48	NDA	JP5	(b) (3) (A)		(b) (3) (A)		One indication approximately (b) (3) (A) inches from LRUT setup	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JP5 A21.49	NDA	JP5	(b) (3) (A)		(b) (3) (A)		Deteriorated sample piping on Tank (b) (3) (A)	Urgent	FFS assessment	A	Reviewed for FFS. Replacement of sample pipes too risky, not recommended. Close four sample pipe valves to mitigate risk: 1) (b) (3) (A)	RMMR	N	N	Serious
JP5 A21.50	NDA	JP5	(b) (3) (A)		(b) (3) (A)		Dent was on bell joint. Measured depth was 0.320 in.	Urgent	FFS assessment	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
JP5 A21.51	2022 EEI	JP5	(b) (3) (A)		(b) (3) (A)		Dent on bell joint	Urgent	API and FFS assessments	A	FFS performed with failed result. Repair with welded pup required.	FY21EPRC	N	N	Serious
JP5 A21.52	2022 EEI	JP5	(b) (3) (A)		(b) (3) (A)		Dent near seam weld. Failed Level 2 FFS.	Urgent	API and FFS assessments	A	FFS performed, no repair required for defuel.	FY21EPRC	N/A	N	Medium
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)
(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)	(b) (3) (A)