Joint Task Force-Red Hill

Bi-Monthly Quality Validation Working Group Meeting



29 June 2023

This brief is classified:



BACKGROUND/DESCRIPTION

- 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
9	Design piping system to withstand repeat of surge event. Design of repairs to damaged piping IAW and qualified by pressure test to ASME B31.3. Surge pressures mitigated by operational changes and equalization piping.	27 Jun 23	(b) (3) (A)
31	Replace calcium silicate insulation, stainless straps, and jacketing on (b) (3) (A) compression sleeve pipe coupling near (b) (3) (A)	27 Jun 23	
39	For JP-5 piping between (b) (3) (A) Various sections of pipe are floating from the saddles and the saddles are offset from the support frame. Reset saddles to bear the pipe and to be centered on the support frame. Assume support saddles need to be reset.	27 Jun 23	
96	Replace corroded conduits serving (b) (3) (A)	27 Jun 23	
128	Severe corrosion and pitting at several locations between (b) (3) (A) . Wall Loss observed between 60%-79%. Severe corrosion also observed at pipe support cradle interfaces. Repair pipe.	28 Jun 23	
169	Failing Gasket. Remove the failing gasket on the blind flange. Provide and install new gasket.	29 Jun 23	
194	Dent, on long seam. FFS assessment and repair if necessary. FFS failed. Place clamp over piping at (b) (3) (A) on JP-5 line.	28 Jun 23	



Quality Validation Report

		ENSURING A FREE AND OPEN INDO-FACIFIC		
	NO.	Validation Complete	Date	Location
2	221	Two separate corrosion findings < 6 ft apart. Remaining thickness < the minimum thickness per (b) (3) (A) FFS assessment and repair if necessary. FFS failed. Place clamp over piping at (b) (3) (A) on JP-5 line.	28 Jun 23	(b) (3) (A)
2	231	For F-24 piping between (b) (3) (A) : Review conditions to assess for proper contact between the pipe and support. Provide shims to bring the pipe support into contact with the pipe. Provide at Pipe Stand numbers (b) (3) (A) and others without proper contact. Assume shims are required. (b) (3) (A)	28 Jun 23	
2	232	For JP-5 piping between (b) (3) (A) : Review conditions between (b) (3) (A) to assess for proper contact between the pipe and support. Provide shims to bring the pipe support into contact with the pipe in accordance with recommendation in Pipeline Stress Analysis and Structural Evaluation Report dated Sep 202. Provide at Pipe Stand numbers (b) (3) (A) and others without proper contact. Assume shims are required. (b) (3) (A)	28 Jun 23	



Quality Validation Report

NO.	Validation Complete	Date	Location
246	For JP-5 piping (b) (3) (A) Various pipe saddles are missing. Provide and install new support saddles consistent with the type currently in service and finished hot dip galvanized. Assume saddles are required.	28 Jun 23	(b) (3) (A)
247	Provide repairs to execute the DFM Cutover and cross-connect fuel transfer (b) (3) (A) piping in the UGPH. Install new at existing flanged spool.	29 Jun 23	
248	For JP-5 piping between the Sectional valves near (b) (3) (A) Some support frames bear the JP-5 piping directly. Install low friction slide pads between the pipe and the frames. Assume slide pads are required.	28 Jun 23	



Rework - Quality Validation Report

NO.	Validation Complete	Date	Location



Relief - Quality Validation Report

NO.	Validation Complete	Date	Location



Transition to Microsoft Teams

		Red Hill B	ulk Fuel Storage Fac	cility Defuel				
Validation Firm	HDR Environment		ns and Construction,			Repair No.		
Address	9781 S. Meridian E	Blvd., Suite 4	100, Englewood, CO	80112		Repair ID		
Contract No.	FA890315D0007,	D.O. FA890	3-19-F-0027			Report	xx FEB 20)23
QV Engineer	(b) (6)					Date		
			VALIDATION	100				
Source	PDF Page	No.	Facility Geograph	nic Area		Location	Reference	
Repair Description	Codes & Criteria:				Sour	ce Contract Reference		
Description of Contractor QC Method(s) Used						ntractor QC s Reviewed		
Description of QA Validation and Observations	Final acceptance by	government.	Date:					
Rework	Needed		Photo Record Attached	d	Repair	Work Valid	dated as Co	mplete
Yes	No				•	Yes	0	No
ereby certify that repair	work validated in this	QV ENG	CERTIFICATION					
port was personally sub port is true.		1	DATE	xx FEB 202				

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



Testing & Inspection Dates

NO.	Testing & Inspection Dates	Date	Location
1			
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

				QUALI	TY VALIDATION (0	QV) REPO	ORT			
]	Red Hill B	ulk Fuel Storage Fac	ility Defue	l			
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	009	
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112			(b) (4) _{LAT}	.03
C	ontract No.	FA89031	5D0007, D	.O. FA890	3-19-F-0027			Report Date	27 JUN 2	023
Q	V Engineer	(b) (6)			Phone (b) (6)		Email	(b) (6)		
					VALIDATION					
Sor	Source PDF Page				Facility Geograph	ic Area		Location	Reference	
(b) (4)		389			Tank Gallery		Various			
Repair	Description	Design of pressure	repairs to test to ASN	damaged //E B31.3.	and repeat of surge of piping IAW and quali Surge pressures miti	fied by	Source	ce Contract Reference	N3943020 N3943021	
Con	scription of ntractor QC nod(s) Used	procedure	N/A - Effort was for a design for equalization piping and a procedure for operations to mitigate surge pressures. There are no new contractor field actions to QC for this item. CQCP and Reports. Records Reviewed						d Daily	
Val	otion of QA lidation and bservations	pressures Governm	s. The desi ent.	gn and pro	or equalization piping ocedures were receiv and procedures (Subn	ed as a su	bmitta l , rev			
		Final accep	otance by go	vernment.	Date: 14 JUN 2023		<u> </u>			
	Rework				Photo Record Attached	1	Repair	Work Vali	dated as Co	mplete
O	Yes	\odot	No		See Page 2.		\odot	Yes	O	No
	Comments Contractor provided piping system design to withstand repeat of surge event. Contractor provided operational changes and designed equalization piping to mitigate surge pressures.									
					CERTIFICATION	/I-\-	(0)			
	tify that repair personally sub			QV ENG	INEER SIGNATURE	(b)	(6)			
report is true		_10.110100 dil			DATE	27 JUN 2	023			

				QUALI	TY VALIDATION (QV) REPO	RT				
]	Red Hill B	ulk Fuel Storage Fac	ility Defue	l				
Valid	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	031		
	Address	9781 S. N	/leridian Bl	Ivd., Suite 400, Englewood, CO 80112				Repair ID	(b) (4) PM.	25	
C	ontract No.	FA89031	5D0007, D	.O. FA890	3-19-F-0027			Report Date	27 JUN 20	023	
Q'	V Engineer	(b) (6)								
					VALIDATION						
Sou	Source PDF Page				Facility Geograph	ic Area		Location	Reference		
(b) (4)		393			Tank Gallery		(b) (3) (A	()			
Replace calcius iacketing on (b) (3) (A)				cate insula compress	ation, stainless straps sion sleeve pipe coup	, and ling near	Sour	ce Contract Reference	N3943020 N3943021		
Description of Contractor QC Method(s) Used								Contractor QC Records Reviewed			
Val	otion of QA idation and bservations	Form 429 design ar JTF-RH s JTF-RH (submittals	06/2. Visua nd material secondary QV visually s, daily rep	lly inspected submittals QA and 3rd inspected ports).	te is documented by the documented by the documented installation. Reviewed NDE repid Party QV completed repairs and reviewed Date: 14 JUN 2023	tion; match orts. d.	ed comple	eted constr	uction agai	nst	
	Rework	Needed	y distribution of gr		Photo Record Attached	l	Repair	Work Vali	dated as Cor	mplete	
0	Yes	•	No		See Page 2.		•	Yes	0	No	
Comments Contractor replaced fireproofing materials on the (b) (3) (A) coupling. A specialized jacket was designed for the coupling and installed IAW manufacturer's instructions.											
					CERTIFICATION		/ ()				
I hereby cert				QV ENG	INEER SIGNATURE	(b)	(6)				
report was pereport is true	-	osianilaieu an	นแเช		DATE	27 JUN 2	023				

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Existing coupling at (b) (3) (A) is sleeve and straps in poor condition.

(3)

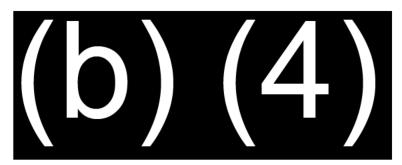
Contractor installed new fireproofing jacket at the (b) (3) (A) oupling.

				QUALI	TY VALIDATION (QV) REPO	ORT				
]	Red Hill B	ulk Fuel Storage Fac	ility Defue	el				
Valida	ation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	039		
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112		Repair ID	EPRC.P.	a	
Co	ntract No.	FA89031	5D0007, D	.O. FA890	3-19-F-0027			Report Date	27 JUN 2	023	
QV	Engineer	(b) (6)									
	VALIDATION										
Source PDF Page No. Facility Geographic Area								Location	Reference		
NDAA 40 [references F-24			nces F-24	line)	Tank Gallery		(b) (3	3) (A)		+	
Repair Description and the saddles as saddles to bear the				offset fron pipe and a	are floating from the n the support frame. Itso be centered on the ddles need to be rese	Reset e support	Sour	ce Contract Reference	N3943020 N394302		
Description of Contractor QC Method(s) Used				Со			ntractor QC s Reviewed				
Valid	ion of QA dation and servations	Form 429 design ar JTF-RH s JTF-RH (submittals	96/2. Visua nd material secondary	lly inspectorsubmittals QA and 3rd inspected orts).	e is documented by to ed completed installa s. Reviewed NDE rep d Party QV completed repairs and reviewed Date:	tion; match orts. d.	ned comple	eted constr	uction agai	nst	
	Rework	Needed	, ,		Photo Record Attached		Repair	Work Vali	dated as Co	mplete	
0	Yes	\odot	No		See Page 2.		•	Yes	0	No	
Contractor reset saddles on Pipe Supports (b) (3) (A) Support shims were provided to bring the saddle in contact with the JP-5 piping. This repair item was executed in conjunction with repairs 232 (provide shims) and 248 (provide Teflon wear pads), providing comprehensive repairs to the pipe supports. CERTIFICATION											
I hereby certif	v that renair	work validate	ed in this	QV ENG	INEER SIGNATURE	(b)	(6)				
report was per report is true.					DATE	27 JUN 2	023				

	QUALITY VALIDATION (QV) REPORT											
]	Red Hill B	Bulk Fuel Storage Fac	ility Defue	el					
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	096			
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112		Repair ID	JP5.065			
C	ontract No.	FA89031	5D0007, D	.O. FA890)3-19-F-0027			Report Date	27 JUN 2	023		
Q	V Engineer	(b) (6	5)					Dute				
	VALIDATION											
Son	urce	F	PDF Page N	lo.	Facility Geograph	ic Area		Location	Reference			
NDAA		53			Tank Gallery		(b) (3)	(A)		3		
Replace corroded Repair Description				onduits se	rving(b) (3) (A)		Sour	ce Contract Reference	N3943020 N394302			
Description of Contractor QC Method(s) Used								Contractor QC Records Reviewed				
Val	otion of QA lidation and observations	JTF-RH s JTF-RH (QA and 3r	o. d Party QV complete d repair & reviewed co		C docume	ntation.				
		•	otance by go	overnment.	Date: 14 JUN 2023		1					
		Needed			Photo Record Attached	i			dated as Co			
0	Yes	•	No		See Page 2.		•	Yes	\circ	No		
Comments Contractor replaced corroded rigid conduit, replaced flex conduit for communications wiring, replaced flex conduit for MOV power with Mineral Insulated (MI) cable to match recent Facility upgrades. Valve has been operationally tested for rotation check, limits set, and automated fuels handling equipment (AFHE) integration.												
					CERTIFICATION							
,		work validate		QV ENG	INEER SIGNATURE	(b) ((6)					
report is true		otamiated an	G 1110		DATE	27 JUN 2	JUN 2023					

QUALITY VALIDATION (QV) REPORT											
Red Hill Bulk Fuel Storage Facility Defuel											
Validation Firm HDR Environmental			l, Operations and Construction, Inc.				Repair No.	אכיו ו			
Address 9781 S. Meridia			/leridian Bl	vd., Suite	400, Englewood, CO			FOR.059			
С	Contract No.	FA890315D0007, D.O. FA8903-19-F-0027						Report Date	1 28 JUN 2023 1		
Q	V Engineer	(b) (6)						Dute			
VALIDATION											
Son	urce	PDF Page No.			Facility Geographic Area		Location Reference				
NDAA					(b) (3) (A)		(b) (3) (A)				
Repair Description		Severe corresion and pitting at several locations between (b) (3) (A) Wall Loss observed between 60%-79%. Severe corresion and pitting at several locations between 60%-79%. Severe corresion and pitting at several locations between interfaces. Repair pipe.					Source Contract Reference				
Description of Contractor QC Method(s) Used		Inspector by the talletti					Contractor QC Records Reviewed			Daily	
QA methods outlined in QASP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repair & reviewed contractor QC documentation. Observations											
		Final acceptance by government. Date: 20 DEC 2022									
	Rework Needed			Photo Record Attached			Repair	Work Vali	dated as Co	mplete	
O	Yes	•	No		See Page 2.		•	Yes	O	No	
Contractor replaced entire (b) (3) (A) All pipeline butt welds were inspected by PAUT (Phased Array Ultrasonic Testing) or RT (Radiographic Testing). New gaskets and hardware installed at points of connection. Protective coating applied (two coat epoxy with polyurethane top coat). Piping segment from within (b) (3) (A) passed leak test January 2023. (b) (4) reports and weld map included for reference.											
CERTIFICATION (b) (6)											
I hereby certify that repair report was personally sub				QV ENGINEER SIGNATURE		(D) (D)					
report is true				DATE 28 JUI		28 JUN 2	UN 2023				

(b) (4)



(b) (3) (A)

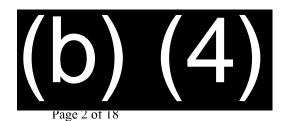
Accepted per ASME B31.3

SCOPE

(b) (4) conducted a Semi Automated Phased Array Ultrasonic Testing (PAUT) examination on for Mechco at the Red Hill facility in Aiea, HI on August 2nd, 2022. The purpose of this examination was to test for weld quality in accordance with ASME B31.3.

TECHNIQUE

The welds were scanned with a 5MHz linear array probe using 32 active elements to produce a sectorial scan utilizing Shear waves from 40° to 70° focused at the 1.5 x thickness. The probe indexing was set at the proper distance noted in the attached scan plan to achieve adequate coverage of the area of interest. The adjacent base material was scanned with 0° conventional UT. The client had the welds mechanically wire wheeled to ensure adequate coupling and aid the transmission of ultrasonic energy. The welds were accessible. Pipe to pipe welds were scanned from both sides of weld centerline. Pipe to fitting welds were scanned from pipe side of weld centerline.



CALIBRATION

Wedge delay calibration

Steel NAVSHIPS calibration standard (S/N: 03-8269) with side drilled holes.

Sensitivity and TCG calibration
Steel (b) (3) (A) piping calibration standard (S/N: 42623) with I.D./O.D. notches.

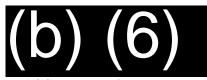
INSPECTION RESULTS

Specification: ASME Section V Procedure: NDT-005.6, Rev. A **Acceptance:** ASME B31.3

Description	Results
	Accepted
(b) (3) (A)	Accepted
\	Accepted
	Accepted

If you have any questions regarding this matter or require any additional information, please do not hesitate to contact (b) (6)

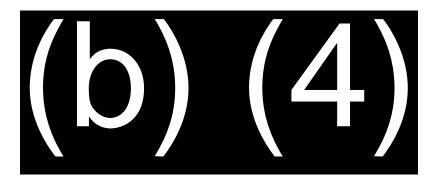
Respectfully submitted,



ACCP UT Level III **API-QUTE** PAUT Level II **AWS CWI**

API-570

(b) (4)



(b) (3) (A)

Accepted per ASME B31.3

SCOPE

(b) (4) conducted a Semi Automated Phased Array Ultrasonic Testing (PAUT) examination on for Mechco at the Red Hill facility in Aiea, HI on August 3rd, 2022. The purpose of this examination was to test for weld quality in accordance with ASME B31.3.

TECHNIQUE

The welds were scanned with a 5MHz linear array probe using 32 active elements to produce a sectorial scan utilizing Shear waves from 40° to 70° focused at the 1.5 x thickness. The probe indexing was set at the proper distance noted in the attached scan plan to achieve adequate coverage of the area of interest. The adjacent base material was scanned with 0° conventional UT. The client had the welds mechanically wire wheeled to ensure adequate coupling and aid the transmission of ultrasonic energy. The welds were accessible. Pipe to pipe welds were scanned from both sides of weld centerline. Pipe to fitting welds were scanned from pipe side of weld centerline.

(b) (4)



CALIBRATION

Wedge delay calibration

Steel NAVSHIPS calibration standard (S/N: 03-8269) with side drilled holes.

Sensitivity and TCG calibration

Stee (b) (3) (A) siping calibration standard (S/N: 42623) with I.D./O.D. notches.

INSPECTION RESULTS

Specification: ASME Section V **Procedure:** NDT-005.6, Rev. A **Acceptance:** ASME B31.3

Description	Results
b) (3) (A)	Accepted
	Accepted

If you have any questions regarding this matter or require any additional information, please do not hesitate to contact (b) (6)

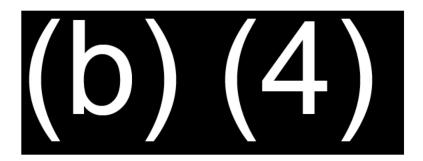
Respectfully submitted,



ACCP UT Level III API-QUTE PAUT Level II AWS CWI API-570

(b) (4)

(b) (4)



(b) (3) (A)

Accepted per ASME B31.3

SCOPE (b) (4)

Ultrasonic Testing (PAUT) examination on for Mechco at the Red Hill facility in Aiea, HI on August 8rd, 2022. The purpose of this examination was to test for weld quality in accordance with ASME B31.3.

TECHNIQUE

The welds were scanned with a 5MHz linear array probe using 32 active elements to produce a sectorial scan utilizing Shear waves from 40° to 70° focused at the 1.5 x thickness. The probe indexing was set at the proper distance noted in the attached scan plan to achieve adequate coverage of the area of interest. The adjacent base material was scanned with 0° conventional UT. The client had the welds mechanically wire wheeled to ensure adequate coupling and aid the transmission of ultrasonic energy. The welds were accessible. Pipe to pipe welds were scanned from both sides of weld centerline. Pipe to fitting welds were scanned from pipe side of weld centerline.



Page 2 of 11

CALIBRATION

Wedge delay calibration

Steel NAVSHIPS calibration standard (S/N: 03-8269) with side drilled holes.

Sensitivity and TCG calibration

Steel (b) (3) (A) piping calibration standard (S/N: 42623) with I.D./O.D. notches.

INSPECTION RESULTS

Specification: ASME Section V Procedure: NDT-005.6, Rev. A Acceptance: ASME B31.3

Description	Results
(b) (3) (A)	Accepted
(b) (3) (A)	Accepted
	Accepted
	Accepted

If you have any questions regarding this matter or require any additional information, please do not hesitate to contact (b) (6)

Respectfully submitted,



ACCP UT Level III API-QUTE PAUT Level II AWS CWI

API-570 (b) (4)

14 March 2023

Figure 1-6{(b)(3)(A) (Red Hill Fuel Storage Complex) Overview

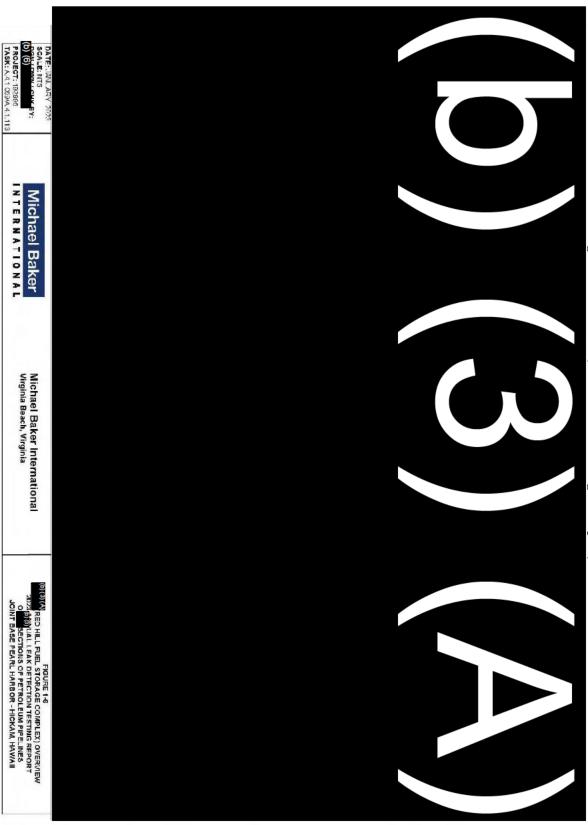
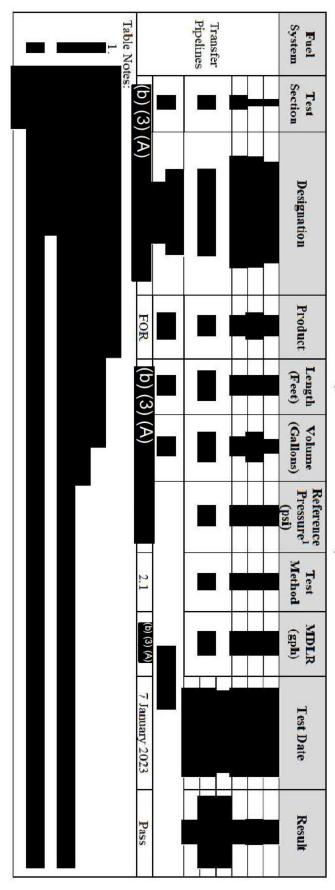


Table 2-3: Results Summary: NS Pearl Harbor Facility - Tested Per BMP



QUALITY VALIDATION (QV) REPORT											
Red Hill Bulk Fuel Storage Facility Defuel											
Validation Firm HDR Environmenta			ironmental	l, Operations and Construction, Inc.				Repair No.			
	Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112							F24.A22.01		
С	ontract No.	FA890315D0007, D.O. FA8903-19-F-0027					Report Date				
Q	V Engineer	(b) (6	5)					Butt			
VALIDATION											
Source		PDF Page No.		Facility Geograph	ic Area	Area Locati		n Reference			
NDAA		73	-		Tank Gallery		(b) (3	3) (A)			
Repair Description		Failing Gasket. Remove the failing gasket on the flange. Provide and install new gasket.				Source Contract Reference					
Description of Contractor QC Method(s) Used						Contractor QC Records Reviewed			Daily		
QA methods outlined in CQCP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repair & reviewed contractor QC documentation. Observations											
		Final accep	ptance by go	nce by government. Date: 14 JUN 2023							
Rework		Needed		Photo Record Attached				idated as Complete			
0	Yes	$oldsymbol{\odot}$	No		See Page 2.		•	Yes	0	No	
Comments Contractor replaced failing gasket with (b) (3) (A) gasket. Hardware replaced under Repair 044. Flanged connection will be monitored during re-packing for weeps. CERTIFICATION											
I hereby certify that repair work validated in this			QV ENG	INEER SIGNATURE	(b)	o) (6)					
report was p report is true	*	ostantiated and this		DATE 29 JUN		UN 2023					

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Existing condition: failing gasket and lack of thread engagement or (b) (3) (A) igh point vent.

(b) (3) (A)

Contractor installed (b) (3) (A) eries gasket or high point vent; hardware replaced as part of Repair 044.

				QUALI	TY VALIDATION (QV) REPO	ORT			
]	Red Hill B	ulk Fuel Storage Fac	ility Defue	l			
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	194	
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112		Repair ID	JP5.A21.0	08
C	ontract No.	FA89031	FA890315D0007, D.O. FA8903-19-F-0027 Report Date 28 JL							023
Q	V Engineer	(b) (6)							
					VALIDATION					
Son	urce	I	PDF Page N	o.	Facility Geograph	ic Area		Location	Reference	
EXWC		N/A			(b) (3) (A	()				
Repair :	Description	Dent, on long seam. FFS assessment and repair if necessary. FFS failed. Place clamp over piping at JP-5 line.						Source Contract Reference		
Cor	scription of ntractor QC nod(s) Used	Contractor QC Records Reviewed						CQCP an Reports.	d Daily	
Val	otion of QA lidation and observations	Form 429 design ar JTF-RH s JTF-RH (submittals	06/2. Visua nd material secondary QV visually s, daily rep	lly inspected submittals QA and 3re inspected ports).	e is documented by to ed completed installa s. Reviewed NDE rep d Party QV complete repairs and reviewed Date: 14 JUN 2023	tion; match orts. d.	ed comple	eted constr	uction agai	nst
	Rework	Needed	of the second	, , ,	Photo Record Attached	l	Repair Work Validated as Complete			mplete
0	Yes	•	No		See Page 2.		•	Yes	0	No
Comments Contracto double pa	r removed	coating ar clamp with	nd cleaned NBR gask	piping prio	or to installing (b) (3 ess dent on the long CERTIFICATION) (A) seam of the		-stainless,	high press	ure)
		r work validate estantiated an		QV ENG	INEER SIGNATURE	(b) ((6)			
report is true		out mateur all	- 1110	DATE 28 JUN 2023						

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed (b) (3) (A)

pipe clamp to address dents on piping segment

(b) (3) (A)

Contractor installed (b) (3) (A)

pipe clamp to address dents on piping segment.

				QUALI	TY VALIDATION (QV) REPO	ORT			
]	Red Hill B	ulk Fuel Storage Fac	ility Defue	l			
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	221	
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112		Repair ID	JP5.A21.	35
C	ontract No.	FA890315D0007, D.O. FA8903-19-F-0027 Report Date 28 JUN 2								023
Q	V Engineer	(b) (e	3)					Dute		
VALIDATION										
Son	urce	F	PDF Page N	lo.	Facility Geograph	ic Area		Location	Reference	
EXWC		N/A			(b) (3) (A	4)				
Repair	Description	thickness assessme	< the mini	mum thick <u>air</u> if nece	gs < 6 ft apart. Remai ness per API 574. 8-1 ssary. FFS failed. Pla line.	ft, FFS	Sour	ce Contract Reference		
Cor	scription of ntractor QC nod(s) Used		outlined in	CQCP.			l	ntractor QC s Reviewed	CQCP an Reports.	d Daily
Val	otion of QA lidation and bservations	Form 429 design ar JTF-RH s JTF-RH (submittals	06/2. Visua nd material secondary QV visually s, daily rep	Ily inspect submittals QA and 3r inspected orts).	te is documented by to the decompleted installates. Reviewed NDE repid Party QV completes and reviewed Date: 14 JUN 2023	tion; match orts. d.	ed comple	eted constr	uction aga	inst
	Rework	Needed	, , ,		Photo Record Attached	i	Repair	r Work Vali	dated as Co	mplete
0	Yes	•	No		See Page 2.		•	Yes	0	No
stated to into two (a Contracto	DP5.A21.35 originally was identified as (b) (3) (A) during inline inspection in 2016-2017. It was two metal loss indications stated to be approximately 6-feet apart. For FFS assessment identification purposes, the indication ID was split JP5.A21.35 into two (a and b). FFS found JP5.A21.35a was found to be no repair, whereas JP5.A21.35b was found to be a repair. Contractor removed coating and cleaned piping at JP5.A21.35b prior to installing PowerSeal 3122-AS-HP (all-stainless, high pressure) double panel repair clamp with NBR gasket to address area of corrosion within the pipeline. CERTIFICATION									
Lharat	CE - H 1		- 4 to 10 t	QV ENG	INEER SIGNATURE	(b) (6)			
,	ersonally sub	r work validate ostantiated an		27 2110	DATE	28 JUN 2	023			

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor removed coating for FFS; indication "A" did not require repair.

(b) (3) (A)

Contractor removed coating for FFS; indication "B" was slated for repair via clamp installation.



Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed (b) (3) (A)

pipe clamp to address corrosion on piping segment.

(b) (3) (A)

Contractor installed (b) (3) (A)

pipe clamp to address corrosion on piping segment.

9781 S. Merid	nental, Operati	Bulk Fuel Storage Factorions and Construction, et 400, Englewood, CC	•	l	Repair	004			
9781 S. Merid	ian Blvd., Suite		Inc.			004			
FA890315D00		e 400, Englewood, CO			No.	231			
	07. D.O. FA89		80112		Repair ID	EPRC.P.o	t		
(b) (6)	,	903-19-F-0027		Report Date	28 JUN 2	023			
(b) (6)									
		VALIDATION							
PDF I	age No.	Facility Geograpl	nic Area		Location	Reference			
40		Tank Gallery		(b) (3)	(A)	(A)			
conditions to a support. Provi	ssess for prop de shims to bri	ss for proper contact between the pipe and hims to bring the pipe support into contact a Comments).				N3943020D222 N3943021F420 Reference			
	ned in CQCP.		-		-				
Form 4296/2. design and ma JTF-RH secon JTF-RH QV vi submittals, da	Visually inspectaterial submittated and a submittated and a sually inspectated in reports).	cted completed installa als. Reviewed NDE rep 3rd Party QV complete ed repairs and reviewe	ation; match oorts. ed.	ed comple	eted constr	uction agai	inst		
Needed		Photo Record Attache	d	Repair	r Work Vali	dated as Co	mplete		
	No	See Page 2.		\odot	Yes	0	No		
3) ((A)	CERTIFICATION							
	OV EN		(b) (6)					
	nis QV EN								
	For F-24 pipin conditions to a support. Provid with the pipe. (Methods outling Government of Form 4296/2. design and ma JTF-RH second JTF-RH QV visubmittals, dail Final acceptance Needed	For F-24 piping between conditions to assess for propsupport. Provide shims to briwith the pipe. (See Comment With the pipe. (See Comment Methods outlined in CQCP. Government Quality Assurant Form 4296/2. Visually inspected design and material submittated JTF-RH secondary QA and 3 JTF-RH QV visually inspected submittals, daily reports). Final acceptance by government Needed No No QV EN	PDF Page No. Facility Geograph 40 Tank Gallery For F-24 piping between (b) (3) (A) Review conditions to assess for proper contact between the support. Provide shims to bring the pipe support in with the pipe. (See Comments). Methods outlined in CQCP. Government Quality Assurance is documented by Form 4296/2. Visually inspected completed installated design and material submittals. Reviewed NDE reputered property (Description of the property) of the property of the proper	PDF Page No. Facility Geographic Area Tank Gallery For F-24 piping between (b) (3) (A) Review conditions to assess for proper contact between the pipe and support. Provide shims to bring the pipe support into contact with the pipe. (See Comments). Methods outlined in CQCP. Government Quality Assurance is documented by the QSR's Form 4296/2. Visually inspected completed installation; match design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023 Needed Photo Record Attached No See Page 2. CERTIFICATION CERTIFICATION CONTRACTOR OF THE PROPERTY OF THE	PDF Page No. Facility Geographic Area Tank Gallery For F-24 piping between (b) (3) (A) Review conditions to assess for proper contact between the pipe and support. Provide shims to bring the pipe support into contact with the pipe. (See Comments). Methods outlined in CQCP. Government Quality Assurance is documented by the QSR's in the daily Form 4296/2. Visually inspected completed installation; matched completesign and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC docusubmittals, daily reports). Final acceptance by government. Date: 14 JUN 2023 Needed Photo Record Attached Repair No See Page 2. CERTIFICATION CURTURE CARROLL CONTROLL CONTROL	PDF Page No. Facility Geographic Area Location Tank Gallery For F-24 piping between (b) (3) (A) Review conditions to assess for proper contact between the pipe and support. Provide shims to bring the pipe support into contact with the pipe. (See Comments). Methods outlined in CQCP. Government Quality Assurance is documented by the QSR's in the daily CQC report 4296/2. Visually inspected completed installation; matched completed constructed and material submittals. Reviewed NDE reports. JTF-RH GV visually inspected repairs and reviewed contractor QC documentation submittals, alily reports). Final acceptance by government. Date: 14 JUN 2023 Needed Photo Record Attached Repair Work Vali No See Page 2. Yes CERTIFICATION CUSTIFICATION CUSTIFICATION CUSTIFICATION CONTRACTOR Reference Source Contract Reference Source Contract Reference Contractor QC Records Reviewed Repair Work Vali CERTIFICATION CERTIFICATION CERTIFICATION	PDF Page No. Facility Geographic Area Location Reference Tank Gallery For F-24 piping between (b) (3) (A) Review conditions to assess for proper contact between the pipe and support. Provide shims to bring the pipe support into contact with the pipe. (See Comments). Methods outlined in CQCP. Government Quality Assurance is documented by the QSR's in the daily CQC reports using N Form 4296/2. Visually inspected completed installation; matched completed construction again design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH ov visually inspected repairs and reviewed contractor QC documentation (Work Plar submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023 Needed Photo Record Attached Repair Work Validated as Completed No See Page 2. CQCP and Reports. Reports. Reports. Repair Work Validated as Completed. Yes CERTIFICATION CERTIFICATION CONTRACTOR N3943021 CONTRACTOR N3943021 CONTRACTOR N3943021 Reviewe Contractor QC CONTRACTOR N3943021 Reports. CACP and Reports. Reports. Reports. Reports. CACP and Reports. Reports. Reports. Repair Work Validated as Contractor QC documentation (Work Plar submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023 Needed Photo Record Attached Repair Work Validated as Contractor QC documentation (Work Plar submittals). Record Photo Record Attached Repair Work Validated as Contractor QC documentation (Work Plar submittals).		

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Existing condition: unspported sections of the F-24 pipeline at (b) (3) (A)

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b)(3)(A)

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b)(3)(A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping at (b)(3)(A)

(b) (3) (A)

Contractor installed shims under saddles to ensure contact with the F-24 piping a (5) (3) (A

				QUALI	TY VALIDATION (QV) REPO	ORT				
]	Red Hill B	sulk Fuel Storage Fac	ility Defue	el				
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	232		
	Address	9781 S. N	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112 Repair ID EPRC.P.e								
C	Contract No.	FA89031	5D0007, D	.O. FA890	FA8903-19-F-0027 Report Date 28 JUN 202						
Q	V Engineer	eer (b) (6)									
VALIDATION											
So	urce	I	PDF Page N	o.	Facility Geograph	ic Area		Location	Reference		
NDAA		73, 74, 76	5		Tank Gallery		(b) (3) (A)		_	
Repair							N394302 N394302				
Co	escription of ntractor QC hod(s) Used		outlined in	CQCP.				CQCP and Daily Reports. Records Reviewed			
Va	ption of QA lidation and bservations	Form 429 design ar JTF-RH 9 JTF-RH 0 submittal	96/2. Visua nd material secondary QV visually s, daily rep	Ily inspectors submittals QA and 3r inspected orts).	ce is documented by the documented by the documented installation. Reviewed NDE reparts QV completed repairs and reviewed Date: 14 JUN 2023	tion; match orts. d.	ned comple	eted constr	uction aga	inst	
	Rework	Needed	, , ,		Photo Record Attached	I	Repair	Work Vali	dated as Co	mplete	
0	Yes	•	No		See Page 2.		•	Yes	0	No	
Repair Description Cont.: "Pipeline Stress Analysis and Structural Evaluation Report dated Sep 202. Provide at Pipe Stand and others without proper contact. Assume shims are required. (b) (3) (A) Contractor installed shims on Pipe Supports (b) (3) (A) to contact with the pipe. This repair item was executed in conjunction with repairs 039 (reseat saddles) and 248 (provide Teflon wear pads), providing comprehensive repairs to the pipe supports. CERTIFICATION											
hereby com	tify that roosi	work validat	ad in this	QV ENG		(b) (6)				
	tify that repail personally sub e.			QV ENGINEER SIGNATURE DATE 28 JUN 2			2023				

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at(b) (3) (A)

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping a(b) (3) (A)

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at (b)(3)(A)



Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed shims on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

				QUALI	TY VALIDATION (QV) REPO	RT			
]	Red Hill B	ulk Fuel Storage Fac	ility Defue	l			
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	246	
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112		Repair ID	EPRC.P.I	b
C	ontract No.	FA89031	5D0007, D	.O. FA890	3-19-F-0027			Report Date	28 JUN 2	023
Q	V Engineer	(b) (6								
VALIDATION										
Son	urce	F	PDF Page N	lo.	Facility Geograph	ic Area		Location	Reference	
EXWC		NDAA Pa	ge 53		Tank Gallery		(b) (3)	(A)		
Kenair Description and a constant and the constant with the true accurantly in						ce Contract Reference	N394302			
Cor	scription of ntractor QC nod(s) Used		outlined in	detail in C	QCP.			ntractor QC s Reviewed	Reports	Daily
Val	otion of QA lidation and bservations	4296/2. Vi material se JTF-RH sec JTF-RH QV daily repo	sually inspe ubmittals. F condary QA visually in: rts).	ected comp Reviewed N and 3rd Pa spected rep	oleted installation; mat IDE reports. arty QV completed.	ched compl	eted const	ruction aga	inst design	and
	Rework	Needed	surice of go	, verminem.	Photo Record Attached	i	Repair	Work Vali	dated as Co	- India
0	Yes	•	No		See Page 2.		•	Yes	0	No
conjunction comprehe	or provided on with rep ensive repa	new saddl airs 039 (re airs to the p	eseat sado	lles), 232 (rts.	to alignovide shims) and 2 CERTIFICATION					uted in
report was p		osianuaieu dN	u una	_	DATE	28 JUN 2	023		Reference QCP and Daily Reports Reviewed Peports using NAVFAC Form action against design and on (Work Plan, submittals, Work Validated as Complete Yes No	

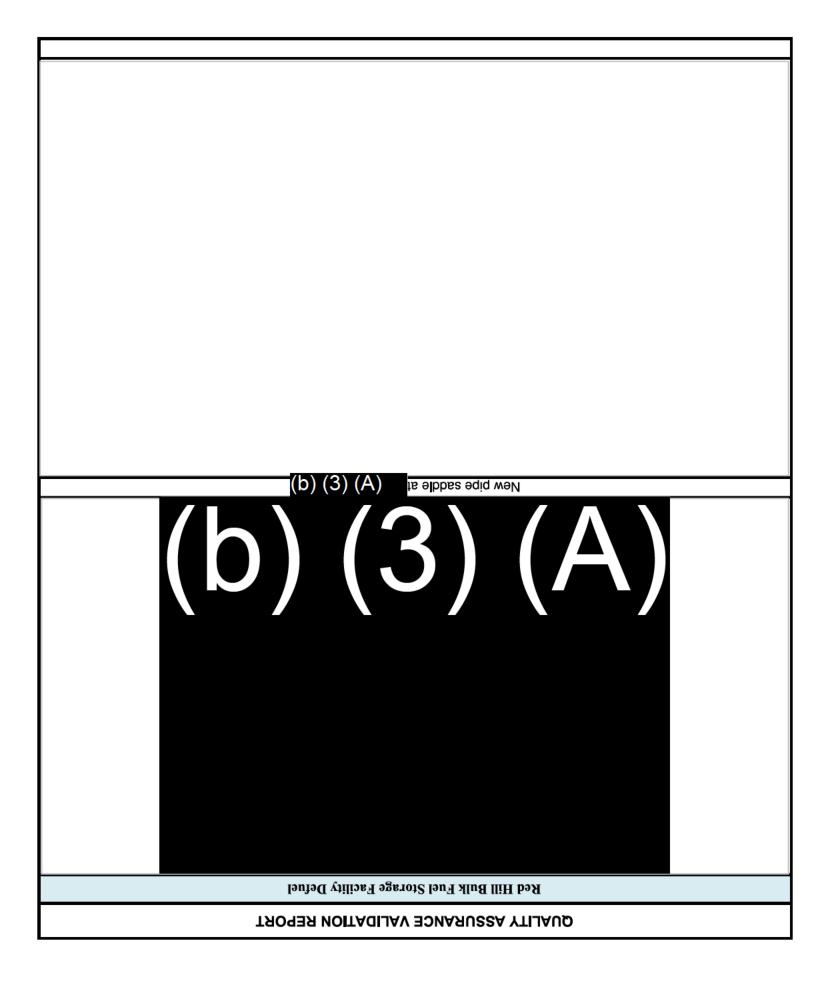
Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

New pipe saddle at(b) (3) (A)

(b) (3) (A)

New pipe saddle at (b) (3) (A)



				QUALI	TY VALIDATION (QV) REPO	ORT			
]	Red Hill B	Bulk Fuel Storage Fac	ility Defue	el			
Vali	dation Firm	HDR Env	ironmenta	, Operatio	ns and Construction,	Inc.		Repair No.	247	
	Address	9781 S. N	Meridian Bl	vd., Suite	400, Englewood, CO	80112			EPRC.K.	СС
C	Contract No.	FA89031	5D0007, D	.O. FA890)3-19-F-0027			Report Date	29 JUN 2	023
Q	V Engineer	(b) (e	6)							
		, , ,	,		VALIDATION					
Son	urce	I	PDF Page N	lo.	Facility Geograph	ic Area		Location	Reference	
EXWC		N/A			Underground Pumpl	nouse	Undergro	und Pump	house	
Repair	Description	(b) (3) (B)	epairs to e) _W (b) (3) (A		Source Contract Reference					
Con	escription of ntractor QC nod(s) Used	on of Contractor QC Repor						QCP and Daily Reports		
Val	ption of QA lidation and observations	JTF-RH see		and 3rd Pa	arty QV completed. pair & reviewed contra	ctor QC doc	cumentatio	n (submitta	ls, design, v	vork plan).
		Final accep	ptance by go	overnment.	Date: 14 JUN 2023					±
	Rework	Needed	I		Photo Record Attached	1	Repair	Work Vali	dated as Co	mplete
0	Yes	•	No		See Page 2.		•	Yes	0	No
Contractor removed fabricated (b) (3) (A) And gaskets installed and torqued to manufacturer's specifications. Installation of valve allows for interconnection of product service lines for defuel operations. CERTIFICATION										
	tify that repair			QV ENG	INEER SIGNATURE	(b)	(6)			
report was p		osamateu an	iu uno		DATE	29 JUN 2	2023			

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Existing spool in JP-5 header in (b) (3) (A)

(b) (3) (A)

(b) (3) (A)

				QUALI	TY VALIDATION (QV) REPO	ORT						
	Red Hill Bulk Fuel Storage Facility Defuel												
Vali	dation Firm	HDR Env	ironmental	, Operatio	ns and Construction,	Inc.		Repair No.	248				
	Address	9781 S. N	/leridian Bl	vd., Suite	400, Englewood, CO	80112			EPRC.P.	c			
C	ontract No.	FA89031	5D0007, D	.O. FA890	3-19-F-0027			Report Date	1 28 H IIN 2	023			
Q	V Engineer	(b) (C)											
VALIDATION													
Sou	urce	I	PDF Page N	o.	Facility Geograph	nic Area		Location	Reference				
EXWC		N/A	-		Tank Gallery		(b) (3)	(A)					
Repair l	Description												
Con	scription of ntractor QC nod(s) Used	Methods	outlined in	detail in C	QCP.		1	COCP and Daily Reports Records Reviewed					
Val	otion of QA lidation and bservations	4296/2. Vi material s JTF-RH sec JTF-RH QV daily repo	sually inspe ubmittals. F condary QA / visually ins rts).	ected comp Reviewed N and 3rd Pa spected rep	is documented by the pleted installation; mat IDE reports. Party QV completed. Pairs and reviewed cor Date: 14 JUN 2023	ched comp	leted const	ruction aga	inst design	and ittals,			
	Rework	Needed	otanice by ge	overmment.	Photo Record Attached	d	Repair	· Work Vali	dated as Co	mplete			
0	Yes	•	No		See Page 2.	-	•	Yes	0	No			
Contractor installed Teflon wear pads on Pipe Supports (b) (3) (A) provide a mating surface between the saddle and pipe. This repair item was executed in conjunction with repairs 232 (provide shims) and 039 (reseat saddles), providing comprehensive repairs to the pipe supports. CERTIFICATION													
		work validate		QV ENG	INEER SIGNATURE	(b)	(6)						
report was p report is true	*	estantiated an	a tniš		DATE	28 JUN 2	2023						

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b)(3)(A)

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b)(3)(A)

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b) (3) (A

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed Teflon wear pads on new saddles to ensure contact with the JP-5 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (5) (3) (A)

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b) (3) (A)

(b) (3) (A)

Contractor installed Teflon wear pads on saddles to ensure contact with the JP-5 piping at (b) (3) (A)