## Joint Task Force-Red Hill

Bi-Monthly Quality Validation Working Group Meeting



22 June 2023



## **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)



NO.	Validation Complete	Date	Location
1	Performance of a surge analysis for the three fuel pipelines to determine whether a larger load than we evaluated could occur during defueling, considering the existing piping configurations and the expected sequence of valve openings associated with defueling. Based on the computed surge loads, any Dresser couplings subject to tension should be evaluated to determine whether they have sufficient capacity, with consideration to replace or strengthen the Dresser couplings.	XX Jun 23	(b) (3) (A)
8	shown on Drawing M-101. If they can be removed safely, remove the Dresser Couplings. JP-5 Emergent Pipeline Repairs were underway at the time of the PHA and will include eliminating old Dresser Coupling on JP-5 piping. This recommendation should be completed prior to returning JP-5 piping to service. Remove the JP-5 mainline compression sleeve pipe coupling. Provide welded pup replacement.	XX Jun 23	
10	Elevated pipe (JP-5, has limited or no lateral restraint. Provide lateral restraint to the existing pipe at PS 18, PS 19, PS 20, PS 45, PS 74, and PS 85.	21 Jun 23	
11	Elevated pipe (b) (3) (A) has limited or no lateral restraint. Provide lateral stops as per (b) (4) retrofit concept drawings.	21 Jun 23	



NO.	Validation Complete	Date	Location
18	Elevated pipe is not supported, pipe is not fully bearing on cradle. Provide lateral stops and reset pipe cradle.	22 Jun 23	(b) (3) (A)
19	Elevated pipe (b)(3)(A) is not supported, cradle is missing. Provide missing cradle and lateral stops.	21 Jun 23	
20	Missing pipe cradle on one side. Repair pipe cradle.	21 Jun 23	
25	(b) (3) (A): JP-5 piping is unrestrained at the end of the main header. Pipeline is free to displace in the event of a surge and could cause overstress. Laterally unrestrained piping at end of JP-5 header near Tanks 19-20 and JP-5 lateral at Tank 19. Similar condition likely exists at (b) (3) (A). Provide axial restraint, as needed, per (b) (4) retrofit drawings. NDAA JP5.075: There is no hold down u-bolts or slide-guide to prevent lateral pipe movement at the end of the header pipe run (at PS-1). Add guided slide support with hold down lugs a	22 Jun 23	
28	Dresser coupling may not have capacity to withstand surge load like May 6 event. See (b) (4) recommendations if laterals to even numbered tanks are disconnected.	22 Jun 23	



NO.	Validation Complete	Date	Location
30	Dresser coupling may not have capacity to withstand surge load like May 6 event. (b) (3) (A)  See (b) (4) recommendations if laterals to even numbered tanks are disconnected.	22 Jun 23	(b) (3) (A)
40	F-24 pipeline is unsupported between supports, approximately Install saddle or shim the pipe or pipe supports to uniformly support the pipe.	21 Jun 23	
41	F-24 pipeline is unsupported between supports. Support is partial engagement on one side of the pipeline. Shim the pipe or adjust pipe supports to uniformly support the pipe.	21 Jun 23	
45	There are two high point vents on the F-24 pipeline between UGPH concrete bulkhead and PS 690 constructed of threaded valves, nipples, and piping. Staining and weeping were noted around the threaded fittings. Valve classifications are unknown. Disassemble threaded connections, retape, and reassemble to prevent future weeps. Replace valves with (b) (3) (A) carbon steel ball valves.	15 Jun 23	



NO.	Validation Complete	Date	Location
46	There are two low point drains on the F-24 pipeline between the UGPH concrete bulkhead and PS-690 that are constructed of threaded valves, nipples, and piping. Notable corrosion was observed on the LPD just before the bulkhead to the UGPH. Valve classifications are unknown. Replace low point drains with carbon steel ball valves, replace corroded piping, and recoat affected areas.	15 Jun 23	(b) (3) (A)
47	The (b) (3) (A) valve has eight studs not fully engaged. Engagement between 0.250 and 0.550 inches was observed with the valve flange. Replace fasteners that are not fully engaged.	15 Jun 23	
48	Several HPVs and LPDs Throughout. These are composed of threaded valves, piping, and components. Minor staining was noted on some of these fittings. Also, the valve classifications in several locations are unknown. Disassemble threaded connections, retape, and reassemble to prevent future weeps at the high point vent between (b) (3) (A)  8. Replace all associated valves with (b) (3) (A) ball valves.	15 Jun 23	



NO.	Validation Complete	Date	Location
84	There are two low point drains on the (b) (3) (A) JP-5 pipeline between the UGPH concrete bulkhead and PS-690 that are constructed of threaded valves, nipples, and piping. There is evidence of fuel staining and weeping noted around the threaded fittings. Moderate corrosion was observed on low point drain piping adjacent to PS-  Notable corrosion was observed on LPD pipe adjacent to (b) (3) (A) Valve classification is unknown. Replace.	21 Jun 23	(b) (3) (A)
85	Several HPVs and LPDs Throughout . These are composed of threaded valves, piping, and components. Minor staining was noted on some of these fittings. Also, the valve classifications in several locations are unknown. Disassemble threaded connections, retape, and reassemble to prevent future weeps at the two high point vents between PS-595 and PS-596 and the threaded plug between PS-298 and PS-299. Replace all associated valves with (b) (3) (A) ball valves.	15 Jun 23	
54	There is a (b) (3) (A) high point vent (b) (3) (A) piping terminates just before the UGPH sump and is lacking a threaded pipe plug. Provide threaded pipe plug to prevent accidental discharge of product from high point vent.	21 Jun 23	



NO.	Validation Complete	Date	Location
55	There is a(b) (3) (A)  There is no pipe cap or plug at the end of the valve. Note: It is not clear as to the purpose of this connection.  Valve classification is unknown. Provide plug or cap to prevent accidental discharge of product. Install plug.	21 Jun 23	(b) (3) (A)
56	There was noticeable fuel drips and weeps coming from pressure relieving devices on the valve above the grating. (Cla Val relief devices). Service valves.	21 Jun 23	
57	Valve flange for the (b) (3) (A) valves is missing a fastener. Install fastener.	21 Jun 23	
91	There was noticeable fuel drips and weeps coming from pressure relieving devices on the valve above the grating. (Cla Val relief devices). Service valves.	21 Jun 23	
92	The (b) (3) (A)  valve is allowing product to weep by and drip into a catchment basin. It was also noted that there are no pressure relief devices installed on the header piping. Service or replace valve (b) (3) (A)	21 Jun 23	
98	There are several open conduits, junction boxes, and unsealed electrical fittings throughout the UGPH that will not meet hazardous area ratings. Provide covers on electrical fittings.	22 Jun 23	



NO.	Validation Complete	Date	Location
99	There are several locations throughout the UGPH where abandoned/open conduit penetrates the UGPH floor, potentially negating the secondary containment. Provide covers on open electrical conduits.	22 Jun 23	(b) (3) (A)
106	Gate valve (b) (3) (A) is missing wheel nut on valve stem. Install new wheel nut.	21 Jun 23	
108	There was noticeable fuel drips and weeps coming from pressure relieving devices on the valve above the grating. (Cla Val relief devices). Service valves.	21 Jun 23	
110	The (b) (3) (A) valves that are mounted on (b) (3) (A) low suction line at Surge Tanks 3 and 4 are missing plugs. A brass/bronze valve was noted (b) (3) (A) . Valve classification is unknown. Install plugs.	21 Jun 23	
236	Remove and replace the elevation and alignment change spool piece at Spool is flanged and includes two rolled 45 elbows and straight segment. [18-TG-25]	22 Jun 23	
240	Remove approximately 46-inch length mainline bell connection segment between (b) (3) (A) . Provide 6 If welded pup replacement. (b) (3) (A)	22 Jun 23	



NO.	Validation Complete	Date	Location
241	Remove the corroded mainline tee (b) (3) (A)  Replace mainline as-needed to install a branch connection.  Rework cross-tunnel piping as-needed to connect the branch connection. Re-connect mainline to the provision for spectacle blind. (b) (3) (A)	22 Jun 23	(b) (3) (A)
242	Remove approximately mainline bell connection segment between PS 68 and PS 69, on both sides of the bulkhead. Provide 10 If welded pup replacement in two segments. [18-TG-46]	22 Jun 23	
243	Remove and replace approximately 96-inch length mainline segment at PS 75. Replace 6-ft above to 2-ft below PS 75. [18-TG-53] Replace the corroded pipe saddle with new.	22 Jun 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



## **Testing & Inspection Dates**

NO.	Testing & Inspection Dates	Date	Location
1			
2			
3			
4			



## **Transition to Microsoft Teams**

		QUALITY VALIDATION (	QV) REPORT	QUALITY ASSURANCE VALIDATION REPORT
		Red Hill Bulk Fuel Storage Fa	cility Defuel	Red Hill Bulk Fuel Storage Facility Defuel
Validation Firm Address Contract No. QV Engin	(b) (4 b) (6	0.0 FA8903-19-F-0027	Repair No.  Repair ID  Report xx FEB 2023	
Source	PDF Page N		nic Area Location Reference	
Repair Description  Codes & Criteria:  Description of		Source Contract Reference Contractor QC		
Contractor QC Method(s) Used			Records Reviewed	Caption
Description of QA Validation and Observations		oovermost Date		
Rework	Needed	Photo Record Attache	d Repair Work Validated as Complete	
O Yes	<ul><li>No</li></ul>		Yes     No	<del>-</del>
hereby cardily that repair	r work validated in this bitantialed and this	CERTIFICATION  OV ENGINEER SIGNATURE		
report is true.		DATE	xx FEB 2023	Caption



## **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

				Red Hill	Bulk Fuel Storage Fa	cility Defue	ı					
Vali	dation Firm	HDR Env		OTTO THE	ons and Construction,	T.		Repair No.	001			
	Address	9781 S. N	Meridian B	lvd., Suite	400, Englewood, CO	80112			<sub>r ID</sub> (b) (4)			
C	Contract No.	FA89031	5D0007, D	O.O. FA89	03-19-F-0027		- 1	Report Date 22 JUN 2023				
Q	V Engineer	(b) (	6)					Date				
		` `			VALIDATION							
So	urce	T	DF Page N	No.	Facility Geograph	nic Area		Location	Reference			
b) (	4)				RHL		Various					
Repair	Description	to determ occur duri configurat	ine whethe ing defueli tions and t	er a large ing, consi the expec	orge analysis for the the full fuel pipelines or a larger load than we evaluated could not considering the existing piping the expected sequence of valve openings the ling. (cont. in comments)			rce Contract Reference				
				an overal	II analysis of surge ba There are no new c			ntractor QC ls Reviewed				
Va	ption of QA lidation and bservations	actions to	QA.		Il analysis of surge pre	essures wh	ich did not	have any r	new contra	ctor		
	Rework	-	statice by g		Photo Record Attache	Repair Work Validated as Complete						
0	Yes	•	No		N/A		•	Yes	0	No		
omments												



#### JOINT TASK FORCE - RED HILL 1025 QUINCY AVENUE SUITE 900 JOINT BASE PEARL HARBOR HICKAM HI 96860

5090 Ser J00/010 May 31, 2023

(b) (6)

State of Hawaii Department of Health 2827 Waimano Home Road, #100 Pearl City, HI 96782

(b) (6)

SUBJECT: JTF-RH's Responses to DOH's Requests for Information Regarding Issues

Concerning Consistency in the Red Hill Bulk Fuel Storage Facility Defueling

Plan Supplement 1.A

On April 14, 2023, Joint Task Force - Red Hill (JTF-RH) received an electronic correspondence from the State of Hawaii Department of Health (DOH) with requests for information (RFIs) concerning the Red Hill Bulk Fuel Storage Facility (RFBFSF) Defueling Plan Supplement 1.A dated September 7, 2022.

Enclosed with this letter is JTF-RH's response to DOH's RFI's with the following supporting documents:

References (a): (b) (4) Memorandum, January 17, 2023 (copy attached)

(b): JTF-RH's Responses to Additional EPA Comments on the Red Hill Bulk Fuel Storage Facility (RHBFSF) Consolidated Repair/Enhancement List, February 22, 2023 (copy attached)

- (c): DOH Electronic Correspondence, April 14, 2023 (copy attached)
- (d):(b) (4) Memorandum, May 16, 2023 (copy attached)
- (e): (b) (4) Memorandum, May 16, 2023 (copy attached)
- (f): Revised Release Event Tree Analysis, May 08, 2023 (copy attached)

JTF-RH intends to provide redacted versions of all final documents no later than ten business days following the date of this submission, to allow for public release without affecting national security interests.

We respectfully request DOH acknowledge receipt of this letter. Should you have any questions or concerns, please contact me or my Chief of Staff. (b) (6)

(b) (6)

Sincerely,

JOHN F. WADE

Vice Admiral, U.S. Navy

Ihr F. J. Wale VADM, US ~

Copy to: EPA HONOLULU HI

#### JTF-RH's Response to DOH's April 14, 2023 Electronic Correspondence

#### 1. INTRODUCTION

DOH and EPA RFI's to Navy requested clarification on pipeline pressures, pipeline and structural repairs, and operational parameters required to defuel Red Hill Bulk Fuel Storage Facility (RHBFSF). (b) (4) provided a memorandum addressing these concerns on January 17, 2023 (Ref (a)). JTF-RH responded to DOH and EPA RFI's in a February 2023 letter (Ref (b)).

The information below answers RFI's contained in DOH's April 14, 2023 electronic correspondence (Ref(c)).

#### 2. BACKGROUND

For Red Hill defuel, unsteady flow events characterized as surge that were considered as realistic are identified in two initiator categories.

- A. Those caused by a sudden change in valve position (closure)
- B. Those caused by the sudden collapse of a cavity of low pressure

#### 2.1. Category B

#### 2.1.1. Assessment Basis

performed finite element analysis and identified locations of peak stress due to a surge. The analysis used a magnitude 320 psi event, which was an estimated pressure the system experienced on 06 May 2021. (b) (4) made recommendations for system repairs based on this analysis and assuming a hypothetical recurrence of the low pressure cavity collapse event. (b) (4) designed pipeline modifications to mitigate a recurrence of a low pressure cavity collapse event.

#### 2.1.2. Risk Mitigation

A low-pressure cavity collapse was the initiator event on 06 May 2021. The basis to mitigate this type of event is to reduce the likelihood of recurrence using a combination of measures. The measures include analog pressure gauges, pressure-indicating transmitters, equalization piping around valves, new high point vent capabilities, and improved operational procedures.

These measures provide redundant pressure indication at the Red Hill Facility. At the start of every defueling operation where the Red Hill pipeline will be introduced to tank head pressure, an equalization procedure to include independent validation will be executed regardless of vacuum condition. Operational procedures will be developed and written to deploy the new capabilities.

New instrumentation, equalization piping, improved operational procedures, and mechanical repairs mitigate the likelihood of a damaging surge initiated by a Category B event.

#### 2.1.3. Approach to Increase Resiliency

JTF-RH concurs with (b) (4) recommendations. Since the Category B event is mitigated, repairs based on a hypothetical recurrence were not necessary. However, in an abundance of caution and to increase resiliency of the system, JTF-RH implemented (b) (4) recommendations. Contracts were awarded to execute recommended repairs. The work included new u-bolt restraints, new and improved

bracing on pipe supports, new pipe supports, axial restraint (b) (3) (A) and new code-compliant blind and flange set (b) (3) (A) he repairs build additional structural resiliency into the system and do not conflict with mitigation measures. Work to install and execute the mitigation and repair measures is in progress.

#### 2.2. Category A

#### 2.2.1. Assessment Basis

In accordance with industry standards, DoD uses ASME B31.3 Process Piping as the code used to establish design pressure. This is coincident with what API 570 §3.1.58 Piping Inspection Code refers to as maximum allowable working pressure. Based on components of the system, UFC 3-460-01 Table 9-1 limits the maximum allowable working pressure to 285 psig. However, ASME B31.3 §302.2.4 allows occasional pressure excursions up to 33% above the system design pressure. For purposes of this document, the pressure excursion allowance contains both basic and occasional load components and is named maximum surge pressure. Most of the Red Hill pipeline systems are consistent with the UFC pressure limitation of (b) (3) (A) There is an exception in the pipeline system segment between UGPH and Hotel Pier. It was built with stronger materials and has a maximum allowable working pressure of (b) (3) (A)

In 2010, modeled steady-state hydraulic and dynamic transient surge conditions and reported safe operating pressure guidelines based on analysis, piping configuration, and operational characteristics. In 2022 erformed stress analysis which considered the suitability of pipelines and laterals in the tank farm area for ASME B31.3 load conditions.

In 2023 (b) (4) ssued memoranda reporting maximum transient surge loads that can be safely resisted by the Red Hill pipelines during defueling. The bases of the analyses were a previous (b) (4) report from April 2022, the DoD Defueling Plan, and ASME B31.3.

#### 2.3. 2010 Surge Analysis Report

The 2010 report Hydraulic Analysis and Dynamic Transient Surge Evaluation, modeled 300 cases of potential events based on many different transfer scenarios, surge initiators, and valve lineups. For each initiator case studied, the model calculated surge pressure at eight piping segments from Red Hill to Hotel Pier using maximum theoretical flow rates stated in the report. Many model cases report on transfer scenarios or lineups which will not be used for defuel, and initiators which have been eliminated or mitigated.

#### 2.3.1. Findings

A significant finding of the report was butterfly valves (BFV) in the underground pumphouse must be used as the primary means of throttling and stopping flow during all issue and transfer operations from Red Hill. Per the extensive hydraulic modeling conducted as part of the study, closure of the BFVs did not induce harmful surge pressures for any operation assessed. Table 1 summarizes the 2010 report findings for Transfer Scenarios 4 (F-24) and 7 (JP-5) which are relevant for defuel. Enclosure 5 (F24) and Enclosure 6 (JP5) are excerpts of the 2010 report.

Table 1 2010 Report Summary

Transfer	Model		Location of	Maximum Theoretical Flow
Scenario	Case	Product	Maximum Pressure	Rate (gpm / bph)
4	4e4	F24	(h) (3)	$(\Delta)$
7	7e4	JP5	(O)	

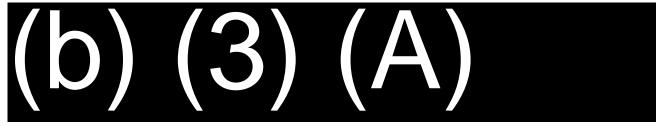
#### 2.3.2. Risk Mitigation

Numerous recommendations from the 2010 report have been implemented into operations or are in the development stage. Examples of recommendations from the report that are in-place or planned by Risktec and FLCPH are below.

- A. BFVs have been used to throttle and stop flow for more than ten years
- B. Locking motor operated fire valves into open position or hand operation mitigates the risk of rapid closure.
- C. Using both inner and outer pipeline loops reduces maximum surge pressure
- D. Operations order to include throttle valve stepping amounts for cushioning and shutdown rates
- E. Operations order to include using both BFVs prevent single-valve surge and reduce maximum surge pressure
- F. Closure speed of the (b) (3) (A) manual ball valve is much longer than modeled
- G. Commercial tankers have robust operational procedures and most have pressure relief systems onboard

#### 3. ANALYSIS

## 3.1. (b) (4) 2022



In addition the analysis found overstress conditions in several existing pipe supports and at locations which required new pipe supports. Report recommendations were adopted and work to brace and install new pipe supports are in progress.

## 3.2. (b) (4)

The April 2022 report used a postulated repeat of the 06 May 2021 event as the basis for suggesting a number of repairs to harden the system. Since that time, there have been a number of operational and structural improvements made. improvements. In a Jan 2023 memorandum reported an intensification of stress (b) (3) (A)

mainline at Tanks 7/8. (b) (4), (b) (5)

+ occasional loads). The January 2023 memorandum (Ref(a)) contains more information.

After the January memorandum was issued, further operational and structural improvements were made to the pipeline systems. In May 2023.



Table 2 Facility Allowable Pressure Limitations

	Facility Limitation on Allowable Working Pressures								
Product	Maximum Allowable Working Pressure (Basic psig)	Maximum Allowable Surge Pressure (Basic + Occasional psig)	Location of Maximum Allowable Pressure Limitation						
JP5	(h) (	$3)(\Delta)$							
F24									

(b) (4) reviewed the 2010 report model output as part of planning defuel operations for JP-5 and F-24. The defuel plan is to load commercial tankers at (b) (3) (A) ria gravity flow from Red Hill. Both inner and outer loops from (b) (3) (A) will be used. The planned operations correspond to report Transfer Scenarios 4 (F-24) and 7 (JP-5). Numerous operational improvements and mitigations are planned to minimize surge pressures. The (b) (4) memo updated 16 May 2023 (Ref (e)) contains more information.

#### 3.3.1. Maximum Flow Rates and Operating Pressures

(b) (4)(b) (4) established maximum defuel flow rates. The basis for the rates is Transfer Scenarios 4 and 7 from the 2010 eport, constraints of the facility limitation on allowable pressures, and considering uncertainty in flow measurement. Table 3 identifies the planned maximum flow rates for defuel.

Table 3 Planned Defuel Maximum Flow Rates and Operating Pressures

Model Case	Product	Maximum Defuel Flow Rate (gpm/bph)	Maximum Tank Head Pressure (psig)	Location of Maximum Tank Head Pressure	Maximum Surge Pressure (Basic + Occasional, psig)
7e4	JP5	(h)	$(3)/\Delta$		
4e4	F24	(0)	$(\mathbf{J})$	<b>'</b>	

#### 4. CONCLUSION

A. (b) (4) as evaluated the structural improvements made to the system and recommends the F24 system allowable pressure be derated near (b) (3) (A)

- B. (b) (4) has evaluated the structural improvements to the system and recommends the JP5 system allowable pressure be derated (b) (3) (A)
- C. (b) (4) has evaluated the 2010 surge analysis report and the facility limitation on allowable pressures, and reported maximum defuel flow rates which result in operating pressures below allowable.
- D. Upon completion of the recommended structural, piping, and operational improvements, JTF-RH believes the system is adequate for defuel based on internal analysis as well as those provided by (b) (4)
- E. JTF-RH revised the Release Event Tree Analysis on May 8, 2023 (Ref(f)).

				QUALITY VALIDATION	(QV) REPO	DRT			
				Red Hill Bulk Fuel Storage Fa	cility Defue	d			
Vali	idation Firm	(h)	11	1			Repair No.	800	
	Address	(P)	(-	/		- 44	Repair ID		
C	Contract No.	FA89031	5D0007, E	.O. FA8903-19-F-0027			Report Date	22 JUN 2	023
Q	V Engineer	(b) (6	5)				Date		
				VALIDATION					
So	urce	1	PDF Page N	lo. Facility Geograp	Facility Geographic Area			Reference	
) (4)		319		RH Tank Gallery		Various			
Repair Description 114 JP-5 Tank			ribution pip Tank and they can b	or Dresser Couplings in the 32 bing in Red Hill Tank Gallery be TK 116 F-76 Tank, shown on the removed safely, remove the mments)	Sour	ce Contract Reference	The state of the s		
Co	escription of intractor QC hod(s) Used	inspection		detail in CQCP. Pipe welds 10 ographic Testing.	00%		ntractor QC s Reviewed		
Va	ption of QA lidation and Observations	Form 429 design ar JTF-RH 5 JTF-RH 6 submittal	96/2. Visua nd materia secondary QV visually s, daily rep	Assurance is documented by ally inspected completed install submittals. Reviewed NDE re QA and 3rd Party QV complet inspected repairs and reviewed orts).	ation; match ports. ed.	ned comple	eted constr	uction aga	inst
	Rework	Needed		Photo Record Attach	ed	Repai	r Work Vali	idated as Complete	
0	Yes	0	No	See Page 2.		•	Yes	0	No
eliminatino piping to Contracto segment	escription C ng old Dress service, Re or cold cut e successfull	ser Coupling  move the existing con  y hydrosta	ng on 18" JP-5 main mpression atically test	at Pipeline Repairs were under IP-5 piping. This recommendath line compression sleeve pipe of sleeve pipe coupling assemble ed under a separate task. weld map/design detail includer CERTIFICATION	tion should coupling. Pro y; welded p ed for refere	be comple ovide weld up segmer	ted prior to ed pup rep	returning lacement."	
	tify that renain	work validate	36.46	QV ENGINEER SIGNATURE (b) (6)					
ereby certify that repai port was personally sul port is true.		WUIK Valluati	ed in this			101			



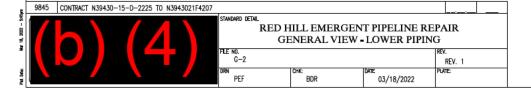
Mainline pipe compression sleeve coupling removed.



Welded pup segment installed in place of pipe compression sleeve coupling.

#### EMERGENT PIPELINE REPAIRS

FITUP P/F FILLET W FITUP P/F FILLET W	DATE	WELDER	ROOT PASS  DATE  ROOT PASS  DATE	VT P/F	INSPECTOR	DATE	welder (b) (6)	DATE 02/10/2023  DATE 02/10/2023	VT P/F P	DATE 02/10/2023 DATE	(b) (6)	MT/PT P/F  COVER PASS  MT/PT P/F	DATE D2 / 24 / 2023 DATE	(b) (6)	RT P/F	DATE	INSPECTOR
FITUP P/F FITUP P/F	DATE		DATE ROOT PASS	VT P/F	INSPECTOR	DATE	(b) (6)	DATE	VT P/F	DATE	(b) (6)	COVER PASS MT/PT		(b) (6)	ят Р/г	DATE	INSPECTOR
P/F FILLET W  FITUP P/F	DATE		DATE ROOT PASS	VT P/F	INSPECTOR	DATE			P/F			MT/PT			RT P/F	DATE	INSPECTO
P/F FILLET W  FITUP P/F	DATE		DATE ROOT PASS	VT P/F	INSPECTOR	DATE			P/F			MT/PT	DATE		RT P/F	DATE	INSPECTO
P/F FILLET W  FITUP P/F	DATE		DATE ROOT PASS	VT P/F	INSPECTOR	DATE			P/F			MT/PT	DATE		RT P/F	DATE	INSPECTO
P/F FILLET W  FITUP P/F	DATE		ROOT PASS	VT P/F	INSPECTOR	DATE			P/F			MT / PT P/F	DATE		RT P/F	DATE	INSPECTO
FITUP P/F	DATE	WELDER						02/10/2023	P								
P/F		WELDER								02/10/2023		þ	02/24/2023			1	
P/F		WELDER									+ +						
P/F		WELDER	DATE									COVER PASS					
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			ROOT PASS									COVER PASS					
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE		RT P/F	DATE	INSPECTO
FILLET W	CD CD					-		02/10/2023	p	02/10/2023		p	02/24/2023		/=		
															1		
			2231						-			v. 55 #20# 1				1 1	
FITUP	this said	Toward 1	ROOT PASS	VT					VT	T. Santi		COVER PASS MT / PT	D win		RT	Desired 1	
P/F	DATE	WELDER	DATE	P/F	INSPECTOR	DATE		DATE	P/F	DATE		P/F	DATE		P/F	DATE	INSPECT
FILLET W	ш							02 / 10 / 2023	,	02/10/2023			02/24/2023				
Y	m	$\sim$	~	m	~~	~		~	2	m		~	~~	~	~	~	~
1			ROOT PASS					800				COVER PASS					
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPERTINE	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECT
P	02/15/2023	(b) (6)	02/15/2023	E	(b) (6)	02 / 15 / 2023		02/15/2023	P	02/15/2023				1	P	02/24/2023	(b)
			ROOT PASS									COVER PASS					
FITUP	DATE		DATE	VT		DATE		DATE	VT	DATE		MT/PT	DATE	INSPECTOR	RT	DATE	1
P/F	02/15/2023		02/15/2023	P/F		02 / 15 / 2023		02/15/2023	P/F	02/15/2023		P/F		2700770	P/F	205.8	
								02/15/2023	P	02/15/2023					Р	02/24/2023	1



**CONSTRUCTION SUBMITTAL** 

#### SHEET NOTES:

- REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12—INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANNON RAPID—RISE FIRE BLANKET FB2000SSISSI, 2—INCH THOCK, EXTENDED 12-INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STYLE 440 RESTRAINT RODS. FIELD VERFY DIMENSIONS OF DRESSER COUPLING PRIOR TO ORDERING
- Components noted as temporary (identified with cross hatch) are for restraint of piping while trans are out of service and will not be subject to inferme. Pressures. Label pring to indicate it is not for fuel.
- USE

  NEOCORPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT
  MELDS FOR TEMPERORY AND PERMANENT COMPONENTS.

  A. ALL SHAP PERFORMED WELDS, EXCEPT THASE IDENTIFIED FOR
  TEMPORARY COMPONENTS, MUST BE HYDROSSTALLY TESTED
  WITH WATER TO 425 PSIG FOR NOT LESS THEM 4 HOURS.

  ALL MELDS, TOR TEMPORARY OR PERMANENT COMPONENTS,
  IDENTIFIED AS "THORO-PERMIT TIE-IN WELDS" ARE SUBJECT TO
  THE METER OF MAINTAINED.
- TIE-IN WELD EXAMINATION.

#### TE-IN WELD EXAMINATION

- -N MED DEMAINATION
  IN ADDITION TO FINAL PRODORAPHIC EXAMINATION, TE-N MEDIS
  DENTRED AS "MOBIO DICEMPT IN:-N WEDIS" MUST RECEVE
  AN EI-HANCED IN-PROCESS DEVAINATION IN ACCORDANCE WITH
  ASIE 831.3 SECTION 344.7.
  IN-PROCESS SCAMINATION MUST BE PERFORMED BY A CERTIFIED
  MEDING INSPECTIOR AND INCLUDES MISIAL EXAMINATION OF:
  2.1. JOHN PEPERARTION AND CLEANLINESS
  2.2. PREHISTATIO.
  2.3. ITT-UP, JOHN CLEANANCE, AND INTERNAL AUGMENT PRIOR
  10. JOHN G.
  2.4. MARKETS SECRETION FOR JOHNING PROPORTINE MATURINGS.

- TO JOHNIG.

  2.4. VARNELES SPECIFIED BY JOINING PROCEDURE INCLUDING RILLER MATERIA, POSTION AND ELECTRODE.

  2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.

  2.6. SLAG REMOVAL AND WELD CONDITION.

  2.7. APPEARMEC OF THE RINSHED JOINT.

  3. CLESHE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND TOOR PROCESSARY OF THE RINSHED JOINT.

  10.05 REMOVARE OF THE RINSHED JOINT.

  10.05 REMOVARE OF THE RINSHED JOINT.

  10.05 REMOVARE OF THE RINSHED JOINT.

  10.05 REMOVEMENT OF THE RESEARCH OF THE RINSHED JOINT.

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  10.05 REMOVEMENT OF THE REMOVEMEN

1	h)	11	1
1		( 7	

## RADIOGRAPHIC INSPECTION REPORT

(b) (4)	
	W. O. No.: 23-034
	Report No.: <u>GSOZZ4</u> Z3
Date	2-24-2623
Dage	1 06 -

2-24-2023

Customer

Date of Inspection

PROJECT Padhill Em	ergent DWG. NO.				C. PROC. B31. 3 REV 2015	((•))
RT SOURCE JR19Z	PIEM AGAIN US	A SCHEENS	TYPE 1 B	TECHNIQUE USED 3	THICKNE (b) (3) (A	
<b>E(b)</b> (	3)(/	4)	MATERIAL	EXPOSURE TIME H m	JOINT TY	Panoramic  2. Single Wall
WELD#	# GEOME UNSHAR		LOCATION F	PROCESSING MANICAL AUTO	//	Offset
(b) (3)	(A) .ozo	111			(3) (A)	3. Double Wall
		X X			3	4. Double Wall 0/90
	,020	X			3	Elliptical
		X X			}	5. Plate •
						6. Other

SNT-TC-1A Level

				QUALITY VALIDATION	(QV) REPO	RT						
				Red Hill Bulk Fuel Storage Fa	cility Defuel							
Val	idation Firm	(h)	1/	1		- +1	Repair No.	010				
	Address	(D)		,			Repair ID	(b) (	4)			
(	Contract No.	FA89031	5D0007, [	O.O. FA8903-19-F-0027			Report	21 JUN 2	023			
Ç	V Engineer	(b)	(6)									
		()	( )	VALIDATION								
So	ource	ı	PDF Page N	To. Facility Geograp	hic Area	Location Reference						
) (4	)	389		Tank Gallery	Tank Gallery			(b) (3) (A)				
Repair	Description	Provide la	ateral restr	, 18") has limited or no lateral raint to the existing pipe at PS : 4, and PS 85.	Sour	ce Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 662					
Co	escription of ontractor QC hod(s) Used		outlined in	detail in QCP.			ntractor QC s Reviewed					
Va	ption of QA lidation and Observations	JTF-RH sec JTF-RH QV	/ visually in	d in QASP. A and 3rd Party QV completed. spected repair & reviewed contri	actor QC docu	umentation	ń.					
	Rework			Photo Record Attache	ed	Repair	Work Vali	idated as Complete				
0	Yes	0	No	See Page 2.		•	Yes	0	No			
port. The Bolts a lat PS-4 ssessm onstrain	SGH Memone updated as shown in 15, PS-74, and the state of the state o	SGH's red Figure 2 fo and PS-85 " U-Bolt re estallation	commender or the follo are not lis pairs were was not fe	DV 2022. "The repairs below so d repairs for pipe supports of t wing six pipe support locations ted in SGH Item No. LAT-20, be performed at the listed location asible. Instead a horizontal me r email communication with SC	he JP-5 fuel s: PS-18, PS- out they are s ons with the e mber was at	line (b) ( -19, PS-20 shown in A exception	3) (A) 0, PS-45, F Appendix A of PS-74. I	is to provi 2S-74, PS- .3 of the S Due to spa	de 85. Note GH Final ce			
				CERTIFICATION	V							
nereby certify that repair work validated in this			3452465	QV ENGINEER SIGNATURE	(6)							
	personally sub			100000000000000000000000000000000000000		$(\mathbf{O})$						



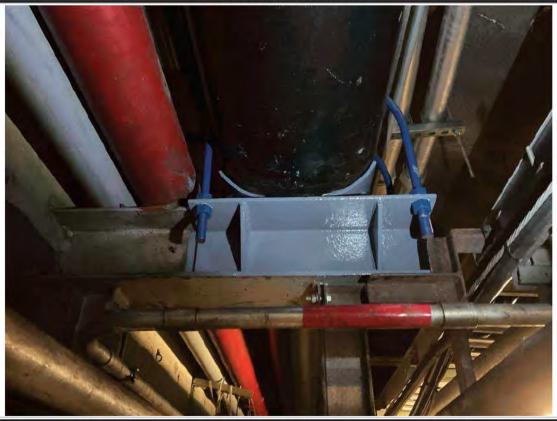
Existing Pipe Support 18.



New welded bracket and U-bolt restraints existing Pipe Support 18.



Existing Pipe Support 19.



New welded bracket and U-bolt restraints existing Pipe Support 19.



Existing Pipe Support 20.



New welded bracket and U-bolt restraints existing Pipe Support 20.



Existing Pipe Support 45.



New welded bracket to prevent "escape" at existing Pipe Support 45.



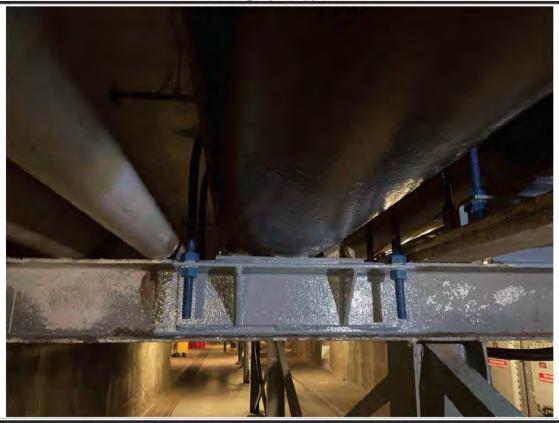
Existing Pipe Support 74.



New welded bracket to prevent "escape" of JP-5 line at existing Pipe Support 74.



Existing Pipe Support 85.



New welded bracket and U-bolt restraints existing Pipe Support 85.

-				QUALITY VALIDATION	(QV) REPO	ORT			
				Red Hill Bulk Fuel Storage Fa	acility Defue	el			
Vali	dation Firm	(h)	11	1		- 11	Repair No.	011	
	Address	(U)	/ (-	+)			Repair ID	(b) (4)	
C	Contract No.	FA89031	5D0007, D	O.O. FA8903-19-F-0027			Report	21 JUN 2	023
Q	V Engineer	(b)	(6)						
			( )	VALIDATION					
So	urce	P	DF Page N	Io. Facility Geograp	ohic Area		Location	Reference	
) (4)		389		Tank Gallery	(	b) (3	3) (A	()	
Repair Description Elevated pipe (b) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C				3) (A) has limited or no lateral s as per (b) (4) etrofit concept o	Source Contract Reference		47QSHA18D000Y W912DY21F0025 Service Order 662		
Co	escription of ntractor QC hod(s) Used		outlined in	detail in QCP.			ntractor QC s Reviewed		
Va	ption of QA lidation and observations	JTF-RH sec		d in QASP. A and 3rd Party QV completed. spected repair & reviewed contr	ractor QC doc	umentatio	ń.		
			otance by g	overnment. Date: 05 JUN 2023		F			
0	77.0	Needed	2.00	Photo Record Attach	ed		Work Vali	dated as Co	7.0
Comments	Yes	•	No	See Page 2.		•	Yes	$\circ$	No
ocations: 2S-25, Po 7/8; while performent not feasib	: PS-53, PS S-26, PS-2 the unders d at the list	8-55, PS-60 7, PS-34, F standing is ed location a horizont	0, PS-64, I PS-36, PS that the b is with the tal membe	OV 2022. "Provide U-Bolts, as PS-71, PS-74, PS-82, PS-85, -42, PS-45 and PS-47 in the elind will be in place, these sup exception of PS-25 and PS-26 r was attached to prevent "escit."  CERTIFICATION	PS-88." U-b event that the ports were r 6. Due to sp cape" of the	olt repairs e blind flan epaired reg ace constr	were identi ge was not gardless. U aints, U-bo	fied at PS- installed a l-Bolt repai It installation	23, It Tank Is were on was
house and	tify that repair	ma Land	3,500	QV ENGINEER SIGNATURE	VI-N	(6)			



Existing Pipe Support 23.



New welded bracket and U-bolt restraints existing Pipe Support 23.

### Red Hill Bulk Fuel Storage Facility Defuel





Existing Pipe Support 25 and 26.





New HSS3x3x1/4-inch welded bracket at Pipe Support 25 and 26.



Existing Pipe Support 27.



New welded bracket and U-bolt restraints existing Pipe Support 27.



Existing Pipe Support 34.



New welded bracket and U-bolt restraints existing Pipe Support 34.



Existing Pipe Support 36.



New welded bracket and U-bolt restraints existing Pipe Support 36.



Existing Pipe Support 42.



New welded bracket and U-bolt restraints existing Pipe Support 42.



Existing Pipe Support 45.



New welded bracket and U-bolt restraints at Pipe Support 45.



Existing Pipe Support 47.



New welded bracket and U-bolt restraints at Pipe Support 47.



Existing Pipe Support 53.



New welded bracket and U-bolt restraints at Pipe Support 53.



Existing Pipe Support 55.



New welded bracket and U-bolt restraints at Pipe Support 55.



Existing Pipe Support 60.



New welded bracket and U-bolt restraints at Pipe Support 60.



Existing Pipe Support 64.



New welded bracket and U-bolt restraints at Pipe Support 64.



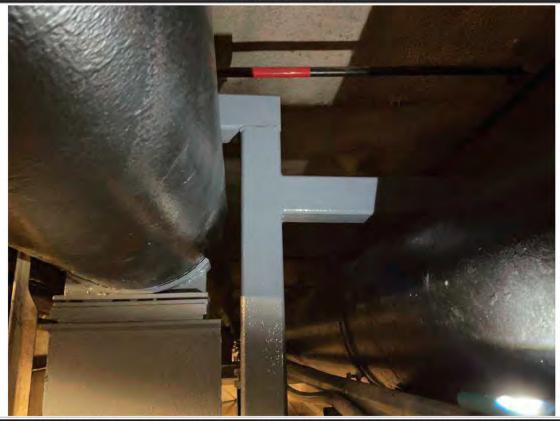
Existing Pipe Support 71.



New welded bracket and U-bolt restraints at Pipe Support 71.



Existing Pipe Support 74.



New welded bracket and saddle at Pipe Support 74. Horizontal member prevents "escape" of F-24 line.



Existing Pipe Support 82.



New welded bracket and U-bolt restraints existing Pipe Support 85.



Existing Pipe Support 85.



New welded bracket and U-bolt restraints existing Pipe Support 85.

				QUALITY VALIDATION	(QV) REPORT						
				Red Hill Bulk Fuel Storage F	acility Defuel						
Vali	idation Firm	(h)		N .		Repair No.	018				
	Address	(D)	4	)		Repair ID	(b) (4)				
C	Contract No.	FA890315	5D0007, E	.O. FA8903-19-F-0027	903-19-F-0027 Repo						
Q	V Engineer	(b) (6	3)			Date					
		(-/(		VALIDATION							
So	urce	р	DF Page N	o. Facility Geogra	phic Area	Location	Reference				
) (4)		390	DI Tugo .	Tank Gallery	(b) (3) (	A)					
Repair Description "Elevated pipe bearing on cradle.  (b) (3) (A)				is not supported, pipe is not reset $(b)$ $(4)$	fully pipe Sou	rce Contract Reference	N3943020 N394302				
Description of Contractor QC Method(s) Used				CQCP.		ontractor QC					
Description of QA Validation and Observations  Validation and Submittals, daily			6/2. Visua d materia econdary QV visually s, daily rep	Assurance is documented by lly inspected completed instal submittals. Reviewed NDE re QA and 3rd Party QV completinspected repairs and review ports).	lation; matched comp eports. ted.	leted constr	uction agai	nst			
	Rework			Photo Record Attach	ed Repa	ir Work Vali	dated as Co	mplete			
0	Yes	•	No	See Page 2.	•	Yes	0	No			
cradle	or welded single (b) (4) Mer	no reference	ced above	ch height of piping, welded exist dated 30 NOV 2022.  CERTIFICATIO  QV ENGINEER SIGNATURE	(b) (c)	ion and reso	eated the p	ipe into			
	personally sub										



Existing condition at Pipe Support 73 prior to repair.



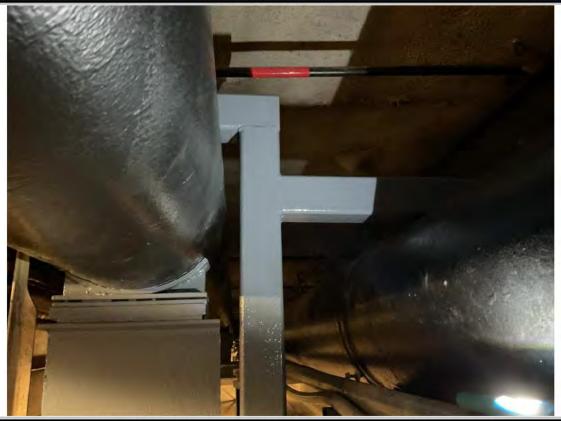
Reseated line with shims and re-oriented pipe cradle at Pipe Support 73.

				QUALITY VALIDATION	(QV) REP	ORT				
				Red Hill Bulk Fuel Storage F	acility Defu	iel				
Val	lidation Firm	(h)	11	1		- +1	Repair No.	019		
	Address	(D)	(-	)			Repair ID	(b) (4)		
	Contract No.	FA89031	5D0007, [	D.O. FA8903-19-F-0027	-		Report Date	21 JUN 2	023	
(	QV Engineer	(b) (	6)	All Carlos Con Visit		*	Date			
				VALIDATION						
Sc	ource	I	PDF Page 1	No. Facility Geogra	phic Area		Location	Reference		
(4)		390		Tank Gallery		(b) (3)	(A)			
Repair Description				is not supported, cradle is mis adle and lateral stops.	ssing,	Sour	ce Contract Reference	47QSHA1 W912DY2 Service C	21F0025	
Description of Contractor QC Method(s) Used				n detail in QCP.		Contractor QC Records Reviewed		QCP and Reports	Daily	
V	iption of QA alidation and Observations	JTF-RH see JTF-RH QV	condary Q / visually ir	d in QASP. A and 3rd Party QV completed. Aspected repair & reviewed cont	ractor QC do	ocumentation	n.			
	Rework	Needed		Photo Record Attack	ned	Repair	Work Vali	dated as Co	mplete	
0	Yes	0	No	See Page 2.	-	•	Yes	0	No	
eport. T l-Bolts a nat PS-4 ssessm onstrair	SGH Memo he updated as shown in 45, PS-74, a nent Report. nts, U-bolt in	SGH's red Figure 2 for and PS-85 " U-Bolt re installation	commender or the follo are not lise pairs were was not fe	OV 2022. "The repairs below sed repairs for pipe supports of owing six pipe support location sted in SGH Item No. LAT-20, se performed at the listed location asible. Instead a horizontal mer email communication with SCERTIFICATIO	the JP-5 fu s: PS-18, F but they are ons with the ember was GH.	el line (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	(A) 0, PS-45, F Appendix A of PS-74. I	is to provi PS-74, PS- 3 of the S Due to spa	de 85, Note GH Fina ce	
port was	ertify that repair personally sub			QV ENGINEER SIGNATURE	(p)	(0)				
ort is tru	ort is true.			DATE	21 JUN	N 2023				

l



Existing Pipe Support 74.



Installed missing cradle and lateral stops at Pipe Support 74.

				QUAL	ITY VALIDATION	(QV) REF	PORT				
				Red Hill l	Bulk Fuel Storage Fa	cility Def	uel				
Val	lidation Firm	(h)	1/1	1				Repair No.	020		
	Address	(U)					- 40	Repair ID	(b)	(4)	
	Contract No.	FA890315	5D0007, D	O. FA89	03-19-F-0027		Report Date	21 JUN 2	023		
(	QV Engineer	(b) (6	<b>i</b> )		1,000			Date			
					VALIDATION						
So	ource	P	DF Page N	lo,	Facility Geograp	hic Area		Location	Reference		
) (4)		390			Tank Gallery		(b) (3)	(A)			
Missing pipe cradle Repair Description				on one si	de. Repair pipe cradl	e.	Sour	ce Contract Reference	Commiss Onder CO		
Description of Contractor QC Method(s) Used				detail in (	QCP.		Contractor QC Records Reviewed		QCP and Reports	Daily	
V	iption of QA alidation and Observations	JTF-RH QV	ondary QA visua <b>ll</b> y in	A and 3rd F spected re	Party QV completed. epair & reviewed contro	actor QC d	ocumentation	n.			
	Dawark	Final accep	tance by go	overnment	Date: 05 JUN 2023 Photo Record Attache	ad	Repair Work Validated as Complete				
0	Yes	•	No		See Page 2.	.u	(e)	Yes	O	No	
omment /elded	7-0	t cradle at	<sup>b) (3) (A)</sup> Coa	ating repai	r performed.						
erehv ce	ertify that repair	work validate	ad in this	QV EN	CERTIFICATION	(b)	(6)				



Previous condition at Pipe Support 6.



Replaced missing cradle (right) at Pipe Support 6.

				QUAL	ITY VALIDATION (	QV) REP	ORT				
				Red Hill I	Bulk Fuel Storage Fa	cility Defu	iel				
Val	idation Firm	/h	1//	1				Repair No.	025		
	Address	(D)	/ (4					Repair ID	(b) (4)		
(	Contract No.	FA89031	5D0007, D	.O. FA89	03-19-F-0027			Report Date	22 JUNE	2023	
Q	V Engineer	(b) (6	3)		300 10 10 10			Date			
					VALIDATION		,				
So	urce	1. 20	PDF Page N	lo.	Facility Geograp	hic Area		Location	Reference		
o) (4) <sub>N</sub>	DAA	(b) (4)	NDAA 54		Tank Gallery		Various				
				ree to dis erstress.	the end of the main place in the event of w).	a surge	Sour	ce Contract Reference	N3943020 N3943021		
Description of Contractor QC Method(s) Used				detail in	QCP.			ntractor QC s Reviewed	QCP and Reports	Daily	
Government Qua Form 4296/2. Description of QA Validation and Observations			96/2.		ce is documented by		in the daily	CQC repo	orts using N	IAVFAC	
	Rework	Needed	ptance by go	overnment	Date: 23 MAY 2023 Photo Record Attache		Repair Work Validated as Complete				
0	Yes	<b>•</b>	No		See Pages 2-3.	.d	(C)	Yes	0	No	
ondition IDAA JF un (at Pt	escription of likely exist 25.075: The S-1). Add g	s at Tanks re is no ho uided slide	5, 13, 14, old down u- e support w	17, 18, ar bolts or s ith hold d	oing at end of header nd 20. Provide axial r lide-guide to prevent lown lugs at PS-1." o/design detail include CERTIFICATION	estraint, as lateral pip ed for refer	s needed, po e movemen	er SGH ret	rofit drawin	gs.	
ereby certify that repair work validated in this port was personally substantiated and this				100000							
				QV EN	SINEER SIGNATURE	(D)	(6)				

# (b) (3) (A)

# (b) (3) (A)

### **EMERGENT PIPELINE REPAIRS**

PAIR ID				ROOT PASS									COVER PASS					
(3) (A	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTO
	P	05 / 12 / 2022		05/12/2023	P	(b) (6)	05 / 12 / 2023	(b) (6)	05 / 13 / 2023	P	05/13/2023	(b) (6)				P	05 / 16 / 2022	(b) (
	~~	~~	~	~	~	~~	~		~~	~~	~~		~	~	~~	~~	~	x)
				ROOT PASS					epair 2	5			COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	FILLET WELD		-	-	-				05/06/2022	P	05/09/2022					1	-	
				1 4			J		05/10/2022	P	05/10/2022				11			
			12 == 11	11 = 1	1									12.7	1 -	1:		
				ROOT PASS			- B		4				COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	p.	05/05/2022	(b) (6)	05 / 05 / 2022	8	(b) (6)	05 / 05 / 2022		05/05/2022	Р	05 / 05 / 2022		-		) — 1	P	05/16/2022	
							4			1								
	FITUP	D		ROOT PASS	VT					VT	T.		COVER PASS MT / PT	6 -	1	RT	r .	
	P/F	DATE	WELDER	DATE	P/F	INSPECTOR	DATE		DATE	P/F	DATE		P/F	DATE	INSPECTOR	P/F	DATE	
	FILLET WELD						-		05/06/2022	P	05 / 09 / 2022							
					-		-		05 / 10 / 2022	-	05/10/2022							
	The same of the sa		J.	ROOFFREE						T.			COMEN PAGE				w	
	FITUP P/F	DATE	WELDER	DATE	VT	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P/F	05 / 10 / 2022	(b) (6)	05/10/2022	P/F	(b) (6)	05/11/2022		05/11/2022	р	05/11/2022		P/F		1 1-	P/F	05/16/2022	
							1											
				ir- i	11								1 - 1		11	11	11	
				ROOT PASS		V							COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	05 / 10 / 2022		05/10/2022	P.	. 100	05/11/2022		05/11/2022	P	05/11/2022				1 1-4	р	05 / 16 / 2022	
									/					-				
		1		11 11	11		11 - 1.			14	11.00			1,000				
				ROOT PASS		1							COVER PASS					
	P/F	DÀTE		DATE	P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	PfF																	

SHEET NOTES:

- 1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS 1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH ARE FOR RESTRANT OF PIPING WHILE TANKS ARE OUT OF SEMICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FULL USE.

  2. ROCKORPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELLS FOR TEMPORARY AND WELLS, EXCEPT HOSE DENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HOMOSTATIOLLY TESTED WITH WARET TO 425 PISE FOR NOT LESS TIEM 4 HOURS.

  4. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, BENTFIED AS "HORSE-CHAPT" TE-IN WELDS" ARE SUBJECT TO TE-IN WELD S'AMINATION.

### TE-IN WELD EXAMINATION

- TE-N WELD EXAMINATION

  1. IN ADDITION TO FINAL PROJOGRAPHIC EXAMINATION, TE-N WELDS
  IDENTIFIED AS "HYDRO DEBUPT TIE-IN WELDS" MUST RECEIVE AN
  EN-NINCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME
  BIST, SECTION 344.7.

  2. IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME
  BIST, SECTION 344.7.

  2. IN-PROCESS EXAMINATION IN ACCORDANCE BY A CERTIFIED
  LIFELY OF A CONTROL OF THE COST PROPRIED FOR THE ADMINISTRATION OF THE
  LIFELY ADDITION AND CLERNICE, AND INTERNAL AUGINEMENT PRIOR
  TO JOHNING.

  2. MARKHELS SPECIFIED BY JOHNING PROCEDURE INCLUDING
  FILLER MATERIAL POSTION AND ELECTRODE.

  2.5. INTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
  2.6. SIAZA REMOVAL AND WELD CONDITION.
  3. CLUSSINE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND
  100X REQUIREMENTAL THAT RECEIVE IN-PROCESS
  ESTAMINATION AND
  100X REQUIREMENTAL THAT RECEIVE IN-PROCESS EXAMINATION AND
  100X RECEIVED.

9845 CONTRACT N39430-15-D-2225 TO N3943021F4207 STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - UPPER PIPING G-1 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

# (b) (3) (A), (b) (4)

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1			

## RADIOGRAPHIC INSPECTION REPORT

(b) (4)	W. O. No.: 22-109
	Report No.: 65 514 22
Date	:_5/16/22
Page	e / of 3

50URCE TO (3)  # GIAN  # ALE TO (3)  # ALE TO (4)  (3)  (4)	GEOMETRI UNSHARPN *UG*		//	PENS TYPE MATE	IB FRIALS	M S F	TECHN EXPOS PROCE	MAT'LO  SURE THE  ESSING	SED 3  ME 5:00  MANUAL AUTOMATIC	THICK (b) (3)	Panoramic Single Wall Offset 3. Double Wall
(3) (3) (A) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	GEOMETRI UNSHARPN *UG*		//	TYPE MATE LOCA	IB FIALS	s F	TECHN EXPOS PROCE	SURE TIN	SED 3  ME 5:00  MANUAL MANUAL	THICK (b) (3)	Single Wall  Offset
o) (3) (A)	*UG*			LOCA	TION	S F	PROCE	SSING	MANUAL	PIPEC	Single Wall  Offset
o) (3) (A)	*UG*			7	1	F   18   18   18   18   18   18   18   1	-	17	MANUAL		THE REAL PROPERTY OF THE PERTY
o) (3) (A)	*UG*			1000	10 00 00 00 00 00 00 00 00 00 00 00 00 0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1///		Default
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		V		- 1					(b) (3) (A	A)	<b>–</b> ( )•
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											4. Double Wall 0/90
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<u>.</u>	vw/	X						/			Elliptical
					H	=	+				5. Plate
	.020	X					1				T
						£ [2]		1 511			6. Other
	1020	X	1								
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b) (6)							U	A Level		5/14/22	

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### RADIOGRAPHIC INSPECTION REPORT

(b) (4)<sub>V. O. No.: ZZ~109</sub>
leport No.: <u>GSOS16</u>ZZ
Page <u>Z of 3</u>

5-16-2022

**Date of Inspection** 

*	*	GEOMETR	C	/	//	//3	20/	100	gi/	/1	*/	/ <sub>\$\vec{z}\$</sub> /
WELD#	VIEW	UNSHARPI	VESS /		£/8	Se Se Se	2/2	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	E 30 E	10 to	2/2	REMARKS
o) (3)	(A)	,020			$\square$			1		П	$\perp$	
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### RADIOGRAPHIC INSPECTION REPORT

(b) (4)

N. O. No.: 22-169

Report No.: C505/622

Page 3 of 3

WELD#	GEOMETRIC UNSHARPNESS A LE		REMARKS
o) (3) (A)			
	(b)	(6)	

SNT-TC-1A Level

Date of Inspection

5-16-2022

				QUALITY VALIDATION (QV) REPO	ORT						
			1	Red Hill Bulk Fuel Storage Facility Defu	el						
Vali	dation Firm	/h	1/	41			028				
	Address	(n	<i>)</i> \ '	+)		Repair ID	(h)	(4)			
С	ontract No.	FA89031	5D0007, D	.O. FA8903-19-F-0027		Report	Report 22 JUN2023  Date 22 JUN2023  Docation Reference  Contract ference  CQCP and Date 22 Reports  Orts using NAVFAC Fortion against design and Contract design and Contract Sort Validated as Complex Plan, submittation and Contract Contr				
Q	V Enginee	(b) (	6)								
				VALIDATION							
Son	Source PDF Page No. Facility Geographic Area Location Reference  (4) (b) (4) Tank Gallery  Dresser coupling may not have capacity to withstand surge.  N3943020E										
) (4)		(b) (4	)	Tank Gallery	(b) (3) ( <i>i</i>	(b) (3) (A)					
Repair	Description	load simil	ar to May 6	ay not have capacity to withstand surge 6 event. See (b) (4) ecommendations if abered tanks are disconnected.	Sour	ce Contract Reference	N3943020D2225 N3943021F4207				
Con	scription of ntractor QC nod(s) Used	on the str	ructural we lug fillet we	CQCP. Visual inspection was performed lds IAW AWS D1.1 code. Dresser elds inspected by magnetic particle 100% inspection via Radiographic	Cor	ntractor QC s Reviewed					
Description of QA Validation and Observations		4296/2. Vi material s JTF-RH sec JTF-RH QV daily repo	sually inspe ubmittals. R condary QA / visually ins erts).	Assurance is documented by the QSR's in the ected completed installation; matched completed Reviewed NDE reports. It and 3rd Party QV completed. It is spected repairs and reviewed contractor QC povernment. Date: 14 JUN 2023	oleted const	leted construction against design and					
	Rework	Needed		Photo Record Attached	Repair	Work Vali	alidated as Complete				
0	Yes	0	No	See Page 2.	0	Yes	0	No			
licate in	or replaced sulation, ar	nd Dresser	coupling b	semble, including replacement of Dresser planket. Fabricated and installed deadleg weld map/design detail included for refere	spool to Ta		lugs, calciu	um			



Previous condition: Dresser coupling removed at Tank 18.



Repaired, reinstalled and re-wrapped Dresser coupling at Tank 18.



Repaired, reinstalled and re-wrapped Dresser coupling at Tank 18.



Deadleg installed between Tank 18 and main header for lateral restraint.

### **EMERGENT PIPELINE REPAIRS**

				ROOT PASS				COVER PASS											
A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECT	
	P	05 / 12 / 2022		05/12/2023	P	(b) (6	05 / 12 / 2023	(b) (6)	05/13/2023	р	05/13/2023	(b) (6)				P	05 / 16 / 2022	(p)	
1				ROOT PASS									COVER PASS						
+	FITUP	DATE	WELDER	DATE	VT	T	DATE		DATE	VT	DATE		MT/PT	DATE	INSPECTOR	RT	DATE	INSPECT	
8	P/F FILLET WELD	DATE	WELDER	PAIL	P/F		MAIN	-	05/06/2022	P/F	05/09/2022		P/F	PAIL	MOFECION	P/F	SKILL	(Hartee)	
	Just Mas								05/10/2022	P	05/10/2022				7				
H	ROOT PASS							+					COVER PASS			1			
T	FITUP P/F	DATE	WELDER	DATE	VT P/F	T	DATE		DATE	VI	DATE		MT/PT	DATE	INSPECTOR	RT P/F	DATE	INSPEC	
I	P/F	05/05/2022	(b) (6)	05 / 05 / 2022	P/F		05 / 05 / 2022		05/05/2022	P/F P	05 / 05 / 2022		P/F		) — 1	P/F	05 / 16 / 2022	(p) (	
4																			
Ħ				ROOT PASS									COVER PASS						
T	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPEC	
	FILLET WELD								05 / 06 / 2022	P.	05/09/2022	(b) (6)	1				-		
H									05 / 10 / 2022	P	05 / 10 / 2022								
扩	RODT PASS												COVER PASS						
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE		MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPEC	
I	P	05 / 10 / 2022	(b) (6)	05 / 10 / 2022	P .	(b) (6)	05/11/2022	(b) (6)	05/11/2022	P	05/11/2022				- = 1	p	05 / 16 / 2022	(b)	
t																			
IT	ROOT PASS												COVER PASS						
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE		
I	P	05/10/2022		05/10/2022	Р.		05 / 11 / 2022		05/11/2022	P	05/11/2022				1	p.	05/16/2022		
Y	~~	~~		~~	~	X	~		~	~~	~		~	~	~	~~	~		
I	ROOT PASS					7 1 1 1			r 28				COVER PASS						
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE		
	P	05 / 17 / 2022		05/17/2022	P		05 / 18 / 2022		05 / 18 / 2022	P	05 / 19 / 2022					ę.	05 / 24 / 2022		

(3) (A)				ROOT PASS				Repair 28 COVER PASS												
(3) (A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	(b) (6)	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECT		
	P	05 / 19 / 2022	(b) (6)	05 / 19 / 2022	P -	(b) (6)	05 / 19 / 2022	(n) (o)	05 / 19 / 2022	р	05/19/2022	(b) (6)				P	05 / 24 / 2022	(b) (		
	6303			ROOT PASS	5.27					127			COVERPASS	1		100				
	P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE			
	P	05 / 20 / 2022		05 / 20 / 2022	P		05 / 20 / 2022		05 / 20 / 2022	Р	05 / 23 / 2022					P	05 / 24 / 2022			
								1-1				1 - 1			1	1				
				ROOT PASS									COVER PASS							
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE			
								SHOP WELD							)	(P)	05 / 24 / 2022			
				ROOT PASS																
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPEC		
	FILLET WELD							(b) (6)	05/24/2022	р	05/25/2022	(b) (6)	P	05 / 25 / 2022	(b) (6)					
								. 1						1 7				1 =		
	J. J. J.			ROOT PASS																
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE		RT P/F	DATE	INSPECT		
	FILLET WELD			11		-	-	1	05 / 24 / 2022	р	05/25/2022		P	05 / 25 / 2022						
										-								-		
				ROOT PASS									COVER PASS							
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE		RT P/F	DATE	INSPECT		
	FILLET WELD						-		05/24/2022	P	05 / 25 / 2022		р	05 / 25 / 2022						
				ROOT PASS									COVER PASS							
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE		RT P/F	DATE	INSPECT		
	FILLET WELD		15 11	17 - 71		- 11			05 / 24 / 2022	Р	05 / 25 / 2022		P.	05 / 25 / 2022			-			
																		-		



SHEET NOTES:

- 1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS 1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH ARE FOR RESTRANT OF PIPING WHILE TANKS ARE OUT OF SEMICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FULL USE.

  2. ROCKORPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELLS FOR TEMPORARY AND WELLS, EXCEPT HOSE DENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HOMOSTATIOLLY TESTED WITH WARET TO 425 PISE FOR NOT LESS TIEM 4 HOURS.

  4. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, BENTFIED AS "HORSE-CHAPT" TE-IN WELDS" ARE SUBJECT TO TE-IN WELD S'AMINATION.

### TE-IN WELD EXAMINATION

- TE-N WELD EXAMINATION

  1. IN ADDITION TO FINAL PROJOGRAPHIC EXAMINATION, TE-N WELDS
  IDENTIFIED AS "HYDRO DEBUPT TIE-IN WELDS" MUST RECEIVE AN
  EN-NINCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME
  BIST, SECTION 344.7.

  2. IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME
  BIST, SECTION 344.7.

  2. IN-PROCESS EXAMINATION IN ACCORDANCE BY A CERTIFIED
  LIFELY OF A CONTROL OF THE COST PROPRIED FOR THE ADMINISTRATION OF THE
  LIFELY ADDITION AND CLERNICE, AND INTERNAL AUGINEMENT PRIOR
  TO JOHNING.

  2. MARKHELS SPECIFIED BY JOHNING PROCEDURE INCLUDING
  FILLER MATERIAL POSTION AND ELECTRODE.

  2.5. INTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
  2.6. SIAZA REMOVAL AND WELD CONDITION.
  3. CLUSSINE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND
  100X REQUIREMENTAL THAT RECEIVE IN-PROCESS
  ESTAMINATION AND
  100X REQUIREMENTAL THAT RECEIVE IN-PROCESS EXAMINATION AND
  100X RECEIVED.

9845 CONTRACT N39430-15-D-2225 TO N3943021F4207 STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - UPPER PIPING G-1 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

# (b) (3) (A), (b) (4)

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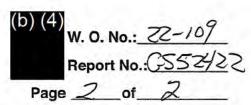
### RADIOGRAPHIC INSPECTION REPORT

(b) (4)	
	W. O. No.: <u>72-/69</u> Report No.: <u>6852422</u>
	6-24-22
Page	1 7

сизтоме (b) (4)	CUST JOB#	SPECIFICATION	ASME V	ACCEPTANCE ASME BS!3	1. Single Wall
PROJECT (D) (3) (A)	DWG. NO.			ACC. PRO\$313 REV205	
RT SOURCE RICH FILM	CFA DS PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATE (b) (3) (A	
5/L\ (C	$(\Lambda \setminus \Lambda)$	YPE &B	TECHNIQUE USED	3 THICK	Panoramic
	5) (A)	IATERIAL 55		50 JOINT	2. Single Wall
SF \	/ \ ' '/	OCATION F	PROCESSING AL	ANUAL PIPE D	
	GEOMETRIC	7//\$//	\$   \$	/2/	
WELD #				REMARKS	Offset
manna	UNSHARPNESS S			REMARKS	3. Double Wall
h) /2) /			1111	7	- ( ).
b) (3) ( <i>i</i>					
, , , ,				3	4 D
	X			7	4. Double Wall 0/90
				3	
	X			1	1
				2	Elliptical  5. Plate
		10 5 ELECT		7	J. Plate
	X	- 7 - 11		3	1
				3	6. Other
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$n \cup \nu$					1
b) (6			11	5-24-22	
		S	NT-TC-1A Level	Date of Inspection	Customer

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### RADIOGRAPHIC INSPECTION REPORT



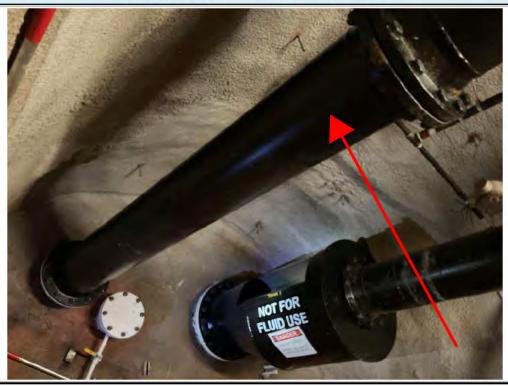
Date of Inspection

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	X			III.		ЩЦ				)		
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SNT-TC-1A Level

		QUALITY VALIDATION (	QV) REPORT			
		Red Hill Bulk Fuel Storage Fa	cility Defuel			
Validation Fire	m / h ) /	11		Repair No.	030	
Addres	ss	4)		Repair ID	(a)	4)
Contract No	o. FA890315D0007,	D.O. FA8903-19-F-0027		Report Date	22 JUN 20	023
QV Enginee	(b) (6)					
		VALIDATION				
Source	PDF Page	No. Facility Geograph	hic Area	Location	Reference	
b) (4)		Tank Gallery	Tanks 2,	4, 6, 8, 10,	12, 14, 16	
Repair Description	load similar to May	may not have capacity to withsta (6 event. (b) (3) (A		rce Contract Reference		
Description of Contractor Q Method(s) Use	of performed on the	in detail in CQCP. Visual inspect structural welds IAW AWS D1.1	code. Co	entractor QC ds Reviewed		
12 11 12 12						
Description of Q Validation an Observation	4296/2. Visually ins material submittals JTF-RH secondary C JTF-RH QV visually i daily reports).	y Assurance is documented by the pected completed installation; mar . Reviewed NDE reports. QA and 3rd Party QV completed. inspected repairs and reviewed corpovernment. Date: 21 MAR 2023	tched completed cons	truction aga	inst design	and
Validation an Observation	4296/2. Visually ins material submittals JTF-RH secondary C JTF-RH QV visually i daily reports).	pected completed installation; man . Reviewed NDE reports. QA and 3rd Party QV completed.	tched completed cons	truction aga	inst design	and ttals,
Validation an Observation  Rewood  Yes	4296/2. Visually ins A material submittals JTF-RH secondary C JTF-RH QV visually i daily reports). Final acceptance by	pected completed installation; man Reviewed NDE reports. And 3rd Party QV completed. Inspected repairs and reviewed congovernment. Date: 21 MAR 2023	tched completed cons	ation (Work	inst design	and ttals,
Validation an Observation  Rewood  Yes  Omments  epair Description  (4) site visit and  ereby certify that repair	4296/2. Visually ins material submittals JTF-RH secondary C JTF-RH QV visually idaily reports).  Final acceptance by rk Needed  O No  1 cont. "See (b) (4) ecceptance (b) (4)	pected completed installation; man Reviewed NDE reports. And 3rd Party QV completed. Inspected repairs and reviewed congovernment. Date: 21 MAR 2023  Photo Record Attache	ntractor QC document  d Repa  numbered tanks are	ation (Work ir Work Vali	Plan, submi	and ttals, mplete

### Red Hill Bulk Fuel Storage Facility Defuel



(b) (3) (A) line (top of photo).



Lateral support provided at Tank 1 via deadleg assembly on the (b) (3) (A) line.



Deadleg installed between Tank 18 and main header for lateral restraint.



Deadleg installed between Tank 18 and main header for lateral restraint.



Deadleg installed between Tank 14 and main header for lateral restraint.



Deadleg installed between Tank 14 and main header for lateral restraint.

				QUALITY VALIDATION	(QV) REPO	DRT			
			1	Red Hill Bulk Fuel Storage F	acility Defue	a l			
Val	idation Firm	(h)	1				Repair No.	040	
	Address	(P)		+ /	77	= 17	Repair ID	F24.010	
(	Contract No.	FA890315	D0007, D	.O. FA8903-19-F-0027			Report	21 JUN 2	023
	QV Engineer	/L\	(6)				Date	p Divor	
		(5)	(0)	VALIDATION					
	1.00		DE D				Launtian	Dafauawaa	
4000	ource		DF Page N			b) (3		Reference	
DAA		40		Tank Gallery		(b) (3) (A)			
Repair	Description	approxima	ately 58 fee	upported between supports, et. Install saddle or shim the y support the pipe.	pipe or pipe	Source Contract Reference		47QSHA18D000\ W912DY21F0025 Service Order 662	
Co	escription of ontractor QC thod(s) Used		outlined in	detail in QCP.			ntractor QC s Reviewed	QCP and Daily Reports	
Va	iption of QA alidation and Observations	JTF-RH sec JTF-RH QV	visually ins	in QASP. and 3rd Party QV completed. spected repair & reviewed cont		umentation	ń		
		I mai accep	tunee by go	Terminent. Date. 05 JOH 2025	1		idated as Complete		
	Rework	Needed		Photo Record Attacl	hed	Repair	Work Vali	dated as Co	mplete
Omments	Yes	Needed	No	Photo Record Attacl	hed	Repair	Work Vali Yes	dated as Co	Mplete No
	Yes	installation	n and repo		e resting on s	supports.		dated as Co	7.0



Previous condition at Pipe Support 6.



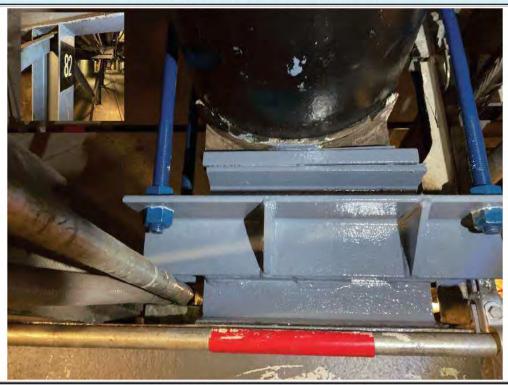
Replaced missing cradle (right) at Pipe Support 6.



Re-seated and shimmed line at PS-80.



Re-seated and shimmed line at PS-81.



Re-seated and shimmed line at PS-82.



Re-seated and shimmed line at PS-84.



Re-seated and shimmed line at PS-85.

	Red Hill Bulk Fuel Storage Fac	cility Defuel						
11 \ 1								
	1		Repair No.	041				
(n) $($	+)		Repair ID F24.011					
FA890315D0007, I	D.O. FA8903-19-F-0027				023			
(b) (6)			Bate					
	VALIDATION							
PDF Page	No, Facility Geograph	nic Area	Location Reference					
40	Tank Gallery	(b)						
partial engagement	t on one side of the pipeline. Shi	im the So	ource Contract Reference					
Methods outlined in	n detail in QCP.		to both a refer to the Park I					
JTF-RH secondary Q JTF-RH QV visually in	A and 3rd Party QV completed. espected repair & reviewed contra	ictor QC documentat	ion.					
Needed		d Rep	air Work Vali	dated as Co				
● No	See Page 2.	•	Yes	0	No			
installation and rep	CERTIFICATION							
	PDF Page 1 40  F-24 pipeline is unspartial engagement pipe or adjust pipe  Methods outlined in QA methods outlined in JTF-RH secondary Qa JTF-RH QV visually in Final acceptance by given by the properties of the	PDF Page No. Facility Geograph  40 Tank Gallery  F-24 pipeline is unsupported between supports. Sopartial engagement on one side of the pipeline. Shippe or adjust pipe supports to uniformly support the Methods outlined in detail in QCP.  QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH QV visually inspected repair & reviewed contractions. Pinal acceptance by government. Date: 05 JUN 2023  Needed Photo Record Attache  No See Page 2.  installation and repositioning has returned the line	VALIDATION  PDF Page No. Facility Geographic Area  40 Tank Gallery  F-24 pipeline is unsupported between supports. Support is partial engagement on one side of the pipeline. Shim the pipe or adjust pipe supports to uniformly support the pipe.  Methods outlined in detail in QCP.  QA methods outlined in QASP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repair & reviewed contractor QC documentat  Final acceptance by government. Date: 05 JUN 2023  Needed Photo Record Attached Rep  No See Page 2.  CERTIFICATION  CERTIFICATION	PDF Page No.  PDF Page No.  Facility Geographic Area  40  Tank Gallery  F-24 pipeline is unsupported between supports. Support is partial engagement on one side of the pipeline. Shim the pipe or adjust pipe supports to uniformly support the pipe.  Methods outlined in detail in QCP.  Contractor QC Records Reviewed  QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH QV visually inspected repair & reviewed contractor QC documentation.  Final acceptance by government. Date: 05 JUN 2023  Needed  Photo Record Attached  Repair Work Vali  No  See Page 2.  CERTIFICATION  CERTIFICATION	VALIDATION  PDF Page No. Facility Geographic Area  40 Tank Gallery  F-24 pipeline is unsupported between supports. Support is partial engagement on one side of the pipeline. Shim the pipe or adjust pipe supports to uniformly support the pipe.  Methods outlined in detail in QCP.  Contractor QC Records Reviewed  QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH QV visually inspected repair & reviewed contractor QC documentation.  Final acceptance by government. Date: 05 JUN 2023  Needed Photo Record Attached Repair Work Validated as Co  No See Page 2.  CERTIFICATION  CERTIFICATION  CERTIFICATION			



Representative photo of existing conditions within Pipe Support range.



Re-seated and shimmed line at PS-86.



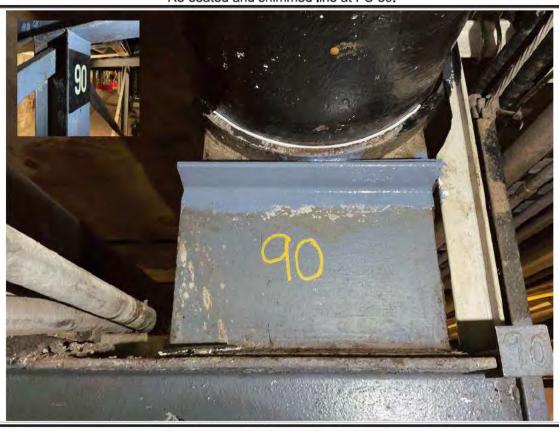
Re-seated and shimmed line at PS-87.



Re-seated and shimmed line at PS-88.



Re-seated and shimmed line at PS-89.



Re-seated and shimmed line at PS-90.



Re-seated and shimmed line at PS-91.



Re-seated and shimmed line at PS-92.

				QUALITY VALIDATION	(QV) REPO	RT			
				Red Hill Bulk Fuel Storage F	acility Defuel				
Val	lidation Firm	/h	1	4.)		- 11	Repair No.	045	
	Address	(D	) (*	+).		= 17	r = 1	F24.020	
(	Contract No.	FA89031	5D0007, [	D.O. FA8903-19-F-0027			Report Date	16 JUN 2	023
(	QV Enginee	(b) (	6)				Date		
				VALIDATION					
Sc	ource		PDF Page I	No, Facility Geogra	ohic Area		Location	Reference	
NDAA		41		(b) (3) (	A)				
Repair	Description	UGPH co threaded were note	ncrete bul valves, ni ed around	point vents on the F-24 pipelir khead and PS 690 constructed oples, and piping. Staining an the threaded fittings. continues in Comments below	ed of d weeping	Sour	ce Contract Reference	47QSHA18D000 W912DY21F002 Service Order 65	
Co	escription of ontractor QC thod(s) Used	threaded		detail in QCP. Visual Examin nt assembly.	ation of		ntractor QC s Reviewed		
Va	iption of QA alidation and Observations	JTF-RH : JTF-RH (	secondary QV visuall	ed in QASP.  QA and 3rd Party QV comple r inspected repair & reviewed overnment. Date: 30 MAY 2023	contractor Q0	C docume	ntation.		
	Rework	Needed	panie by g	Photo Record Attach		Repair	Work Vali	dated as Complete	
0	Yes	•	No	See Page 2.		•	Yes	0	No
(A) (3) (3) (4) (4) (4) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	escription of assifications (A) valve	e threaded readed co	l connections	on assemble threaded connections on assemblies were installed a will be monitored for weeping.  CERTIFICATION  QV ENGINEER SIGNATURE	and visually in				
	personally sub			DATE	16 JUN 20	` ′			

### Red Hill Bulk Fuel Storage Facility Defuel



Existing threaded high point vent assembly at UGPH bulkhead.





Threaded connection repairs.

				QUALITY VALIDATION	(QV) REPO	ORT			
				Red Hill Bulk Fuel Storage Fa	acility Defue	el			
Valida	tion Firm	1h	1/	11			Repair No.	046	
	Address	(U	"	4)			Repair ID	F24.021	
Con	ntract No.	FA89031	5D0007, [	D.O. FA8903-19-F-0027			Report	16 JUN 2	023
	Enginee	b) (6					Date		
17				VALIDATION					
Source	ne.	1	DF Page 1	No. Facility Geograp	hic Area		Location	Reference	
IDAA		41	Di Tage I	(b) (3) (A	()		Location		
Repair De	escription	(b)	(3	) (A)	ce Contract Reference	47QSHA18D000 W912DY21F002 Service Order 69			
	- 1	(Repair D	escription	continues in Comments below	/)				
Contr	ription of ractor QC d(s) Used	threaded		n detail in QCP. Visual Examina nt assembly.	ation of	100	ntractor QC s Reviewed	QCP and Daily Reports.	
2.50	on of QA ation and ervations	JTF-RH s JTF-RH (	econdary QV visuall	ed in QASP.  QA and 3rd Party QV complet y inspected repair & reviewed of overnment. Date: 30 MAY 2023		C docume	ntation.		
	Rework	Needed	statice by g	Photo Record Attache	ed	Repair	Work Vali	dated as Complete	
0	Yes	•	No	See Page 2.		•	Yes	0	No
omments	cription c	ont							
(b) (a) (A)	(3)			on assemblies were installed a will be monitored for weeping.  CERTIFICATION	11 11 11	nspected in	n accordan	ce with AS	ME.
(b) (3) (A		readed co	nnections	will be monitored for weeping.	<b>Y</b>	nspected in	accordan	ce with AS	ME.

### Red Hill Bulk Fuel Storage Facility Defuel



Existing threaded low point drain assembly at UGPH bulkhead.





Threaded connection repairs.

			QUALITY VALIDATION (	QV) REPORT			
			Red Hill Bulk Fuel Storage Fa	cility Defuel			
Validation Fir	- (h)	16	4)		Repair No.	047	
Addre	ss	/ /	T)		Repair ID	F24.023	
Contract N	o. FA89031	5D0007, I	D.O. FA8903-19-F-0027		Report Date		023
QV Engine	(b) (6	6)			Sale		
			VALIDATION				
Source	F	DF Page 1	No, Facility Geograp	hic Area	Location	Reference	
NDAA	42		(b) (3)	(A)			
Repair Description	The Eng with the vengaged.	) (3 alve flang	) (A) e. Replace fasteners that are n	ed	Source Contract Reference	47QSHA18D000 W912DY21F0029 Service Order 65	
Description Contractor Q Method(s) Use	of threaded		n detail in QCP. Visual Examina nt assembly.	200	Contractor QC cords Reviewed		
Description of Q Validation ar Observation	JTF-RH s A JTF-RH C ad	econdary V visuall	ed in QASP. QA and 3rd Party QV complete y inspected repair & reviewed c		umentation.		
Rewo	rk Needed	statice by g	Photo Record Attache	ed Re	epair Work Vali	dated as Co	mplete
O Yes	•	No	See Page 2.	•	Yes Yes	0	No
Comments Threaded connect epacking, flange	ions <mark>(b) (3</mark> will be monite	) (A) pred for w	were replaced and visveeping.		accordance v	vith ASME.	During

### Red Hill Bulk Fuel Storage Facility Defuel



Existing fasteners at 16-inch flange not properly sized.



Fasteners replaced on both sides of flange.

QV Engineer  Source	(b) (4  FA890315D0007, D  (b) (6)  PDF Page N  42  (b) (3)  was noted on some classifications in se	Pacifity Geograph (A)  of these fittings. Also, the value of these fittings. Also, the value of the second control of the second con	hic Area		Repair No. Repair ID Report Date	A HARAYO	023
Address  Contract No.  QV Engineer  Source	FA890315D0007, D (b) (6)  PDF Page N  42 (b) (3)  was noted on some classifications in se	VALIDATION  Facility Geograp  (b) (3)  (A)	hic Area	11	No. Repair ID Report Date	F24.025 16 JUN 20	023
Contract No. I	PDF Page N  42  (b) (3) was noted on some classifications in se	VALIDATION  Facility Geograp  (b) (3)  (A)	hic Area (A)		Repair ID Report Date	16 JUN 20	023
QV Engineer  Source	PDF Page N  42  (b) (3) was noted on some classifications in se	VALIDATION  Facility Geograp  (b) (3)  (A)	hic Area		Date	16 JUN 20	023
Source IDAA	PDF Page N 42 (b) (3) was noted on some classifications in se	Facility Geograph (b) (3)	hic Area (A)			Reference	
IDAA 2	(b) (3) was noted on some classifications in se	Facility Geograph (b) (3)	hic Area (A)		Location	Reference	
IDAA 2	(b) (3) was noted on some classifications in se	(b) (3) (A)	hic Area (A)		Location	Reference	
NDAA 4	(b) (3) was noted on some classifications in se	(b) (3) (A)	(A)				
Repair Description	classifications in se	(A)					
	(Repair Description	veral locations are unknown. continues in Comments below		Source	47QSHA18D000 W912DY21F0025 Service Order 65		
	Methods outlined in threaded componer	detail in QCP. Visual Examinant assembly.	ition of		ntractor QC s Reviewed		
Description of QA Validation and Observations	JTF-RH QV visually	ed in QASP.  QA and 3rd Party QV complete r inspected repair & reviewed of		C documer	ntation.		
Rework N		Photo Record Attache	ed I	Repair	Work Valie	dated as Cor	mplete
O Yes	No	See Page 2.		•	Yes	0	No
(b) (3	nections were visual	constant reassemble to prevent ally inspected and will be monite  CERTIFICATION  QV ENGINEER SIGNATURE	ored during i				

# (b) (3) (A)

# (b) (3) (A)



Existing plug at PS 144 seal welded; no repair performed.



High point vent assembly replaced at PS 584.



Replaced threaded component assembly at PS 595 (1 of 2).



Replaced threaded component assembly at PS 595 (2 of 2).



Replaced threaded plug at PS 650.



Replaced 3/4-inch threaded assembly at PS 205

				QUALIT	Y VALIDATION (	QV) REPO	PRT				
				Red Hill B	ılk Fuel Storage Fa	cility Defue	l				
Val	lidation Firm	/h	1	1			Repair		084		
	Address	(D	<i>)</i> ('	+)		No. Repair ID		JP5.026			
(	Contract No.	FA890315D0007, D.O. FA8903-19-F-0027					Report		1 16 11 10 2023		
	QV Engineer	(b) (	(6)	A. ( )				Date	7,775.		
		( ) (	. ,		VALIDATION						
Source			PDF Page 1	Ja	hia Araa	Location Reference					
IDAA		50			Facility Geograph (b) (3)	(A)		Location	Reference		
Repair Description		(b) (3) (A)					Source Contract Reference		Dender Onder OF		
		(Repair Description continued in Comments below)									
Description of Contractor QC Method(s) Used		included component assembly,					Contractor QC Records Reviewed				
Va	iption of QA alidation and Observations	JTF-RH s	secondary QV visuall	/ inspected	d Party QV complete repair & reviewed c Date: 30 MAY 2023		C docume	ntation.			
Rework		Needed	7.6		Photo Record Attached			Repair Work Validated as Complete			
0	Yes	•	No		See Page 2.		•	Yes	0	No	
Moderatipe adja	Description of te corrosion acent to isol	was obse ation valve emblies we	#0156. \ ere installe	/alve classi d and visua	n piping adjacent to fication is unknown.  Ily inspected in accommodate to the control of the co	Replace." ordance with					
hereby certify that repair work validated in this				QV ENGINEER SIGNATURE			(6)				
	personally sub				DATE		16 JUN 2023				

### Red Hill Bulk Fuel Storage Facility Defuel





Existing low point drain assemblies in need of service.

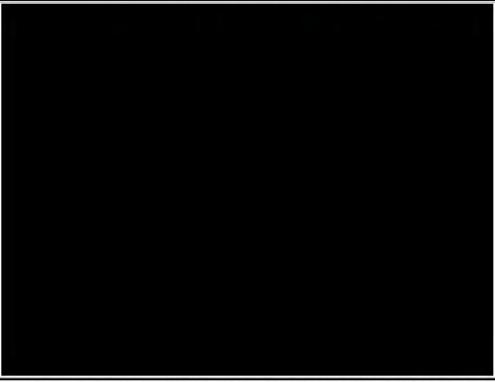




Replacement low point drain assemblies.

				QUALIT	Y VALIDATION (	QV) REPO	RT				
				Red Hill B	ulk Fuel Storage Fa	cility Defuel					
Validation Firm				1			Repair No.		085		
	Address	(b) (4)						Repair ID JP5.			
C	Contract No.	FA89031	5D0007, [	D.O. FA890	O. FA8903-19-F-0027			Report		023	
Ç	V Engineer	(b) (	6)					Date			
		` / `			VALIDATION						
Source PDF Page			PDF Page 1	No. Facility Geographic Area			Location Reference				
NDAA		50		(b) (3) (A) Throughout (PS locations below)						omment	
Repair	Description	Several HPVs and LPDs Throughout. These are composed of threaded valves, piping, and components. Minor staining was noted on some of these fittings. Also, the valve classifications in several locations are unknown.  (Repair Description continues in Comments below)					Source Contract Reference		47QSHA18D000\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
Description of Contractor QC Method(s) Used		Methods outlined in detail in QCP. Visual Examination of threaded component assembly.					Contractor QC Records Reviewed				
Va	ption of QA lidation and Observations	JTF-RH s	secondary QV visuall	y inspected	.d Party QV complete repair & reviewed c Date: 30 MAY 2023		docume	ntation.			
	Rework	Needed		Photo Record Attached			Repair Work Validated			d as Complete	
0	Yes	•	No		See Page 2.		•	Yes	0	No	
ooint ven with (b) ( Location 473-474, New valv	Description of the between Figure 1 (A) ball with Reference 595-596 (vire assembling	PS-595 an valves." cont.) "PS veeping), 5 es and plu	d PS-596 5 205-206 597-598, 6 gs visually	and the thre , 206-207, 2 550-651." / inspected	onnections, retape, eaded plug between 15-216, 276-277, 2 in accordance with ations. All locations	PS-298 and 77-278, 298- ASME. Plug will be monit	PS-299. 299 (wee s at PS 3	Replace a ping), 300- 01 & 312 a	II associate 301, 311-3 are welded,	ed valves	
VOIC IOI				Transm:	CERTIFICATION	/1 \	(6)				

Red Hill Bulk Fuel Storage Facility Defuel



Existing condition of various threaded connections requiring service to address apparent weeps.



Threaded connection repairs at PS 189.



Threaded assembly replaced at PS 205.



Threaded assembly replaced at PS 206.

# (b) (3) (A)



Threaded assembly replaced at PS 277.



Seal welded assembly at PS 312; no repair performed.



Threaded assembly replaced at PS 474.



Threaded assembly replaced at PS 595 (1 of 2).



Threaded assembly replaced at PS 595 (2 of 2).



Threaded plug replaced at PS 597.



Threaded assembly replaced at PS 650.



### DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING AND EXPEDITIONARY WARFARE CENTER 1000 23RD AVENUE PORT HUENEME CA 93043-4301

> 5216 Ser TD/202 2 Jun 23

### **MEMORANDUM**

From: Technical Director, Naval Facilities Engineering and Expeditionary Warfare Center

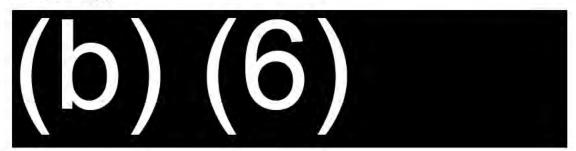
To: Joint Task Force Red Hill

Subj: JOINT TASK FORCE RED HILL CONCURRENCE

Encl: (1)(b) (4)(b) (4) Repair Recommendations, dated April 28, 2023

1. This memorandum is intended to communicate Naval Facilities Engineering and Expeditionary Warfare Center's (NAVFAC EXWC's) concurrence with Joint Task Force Red Hill (JTF-RH) intentions pertaining to Harbor Tunnel pipeline repairs for defueling.

- 2. NAVFAC EXWC released a Hazard Assessment Report (HAR) in October of 2022. The HAR identified existing hazards associated with defueling the Red Hill Bulk Fuel Storage Facility and actions necessary to mitigate those hazards. The JTF-RH Repair Directorate proposed inclusion of (b) (4) identified findings and recommendations into the list of hazard mitigation repairs. Those findings are identified in enclosure (1).
- 3. NAVFAC EXWC concurs with the findings and recommended mitigations identified in enclosure (1).



### Subj: JOINT TASK FORCE RED HILL CONCURRENCE

Project: Harbor Tunnel Work Scope – (b) (4)

Recommendations

Project: Harbor Tunnel Work Scope – (b) (4)

Recommendations

(b) (4), (b) (6)

Specialist

Recommendations: Based on a PHA review, visual field inspections, mitigation measures and with additional knowledge that will be explained in the next paragraph, Brice/Risktec agrees with the NDAA recommendations that the items listed below in Table 1 can be removed from the current work scope since there are no signs of corrosion, weeping or staining on any of the items in Table 1. During Repacking and Defueling, personnel surveillance will be utilized along with the use of absorbent pads and drip pans.

The Harbor Tunnel piping during Repacking and Defueling will involve a controlled line repacking and controlled gravity defueling flow process. There will be operating parameters in place during both Repacking and Defueling that will allow for a more continuous operating pressure during this operation.

# Subj: JOINT TASK FORCE RED HILL CONCURRENCE

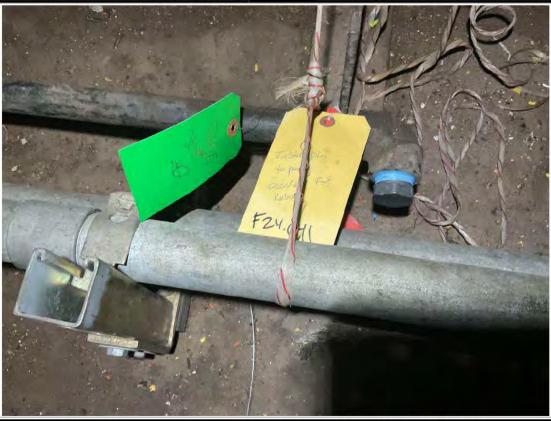
DEF ID	Description	Location	(b) (4) reassessed deficiency items during Apr 2023	Recommended Mitigation
	1" Threaded Plug (top of piping)	PS. 597/598	No plug on F24 found at this location. Plug was located on JP-5 line at this location.	No plug on F24 pipeline at PS 597/598 to replace (see JP5.032 at PS 597/598).
	3/4" High Point Vent	PS. 205/206	Not identified on NDAA. (b) (3) (A)  dry/no active corrosion.	Valve and fittings replaced.
Repair #48 F24.025	1½" Threaded Plug (bottom of piping)	PS. 146	No corrosion observed, no signs of weeping, disassembly and reassembly not warranted.	Monitor during repacking and Defueling. Place drip pans with absorbents as a precautionary measure.
	1 ½" High Point Vent	PS. 106/107	Valves and nipples are welded to pipeline. No corrosion observed, no signs of weeping, disassembly and reassembly of welded components not warranted.	Threaded plug on HPV was replaced; Monitor during repacking and Defueling. Place drip pans with absorbents as a precautionary measure.
	1 ½" Low Point Drain	PS. 106/107	Valves and nipples are welded to pipeline. No corrosion observed, no signs of weeping, disassembly and reassembly of welded components not warranted.	Threaded plug on HPV was replaced; Monitor during repacking and Defueling. Place drip pans with absorbents as a precautionary measure.
	1" Threaded Plug (top of piping)	PS. 597/598	(b) (3) (A)  Dry/ no active corrosion.	Plug was replaced.
Repair #85	½" Plug (top of piping)	PS. 311/312	Plug is welded to pipeline. No corrosion observed, no signs of weeping, disassembly and reassembly of welded components not warranted.	Monitor during repacking and Defueling. Place drip pans with absorbents as a precautionary measure.
JP5.032	½" Plug (top of piping)	PS.300/301	Plug is welded to pipeline. No corrosion observed, no signs of weeping, disassembly and reassembly of welded components not warranted.	Monitor during repacking and Defueling. Place drip pans with absorbents as a precautionary measure.
	Two 1" High Point Vents	PS.206/207	(b) (3) (A)	Valve and fitting replaced.

-				QUALI	TY VALIDATION (	QV) REPO	DRT			
				Red Hill B	ulk Fuel Storage Fa	cility Defue	l			
Valie	dation Firm	16	1/	41			- 11	Repair No.	054	
	Address	(b	) (°	+)			- 17	Repair ID	F24.041	
С	ontract No.	FA89031	5D0007, E	O. FA890	3-19-F-0027		- 1	Report	21 JUN 2	023
Q	V Engineer	(b) (	6)					Date		
		( ) (			VALIDATION					
Sol	ırce	1	PDF Page N	Jo.	Facility Geograp	nic Area		Location	Reference	
NDAA		43	Di Tugo I		(b) (3) (A	١)				
Repair l	Description	a threade	d pipe plu		threaded pipe plug t		Sour	47QSHA18D000 W912DY21F002 Service Order 65		
Cor	scription of ntractor QC nod(s) Used		outlined in		t from high point ver	IL.	100	ntractor QC s Reviewed	QCP and Daily Reports.	
Val	otion of QA lidation and bservations	JTF-RH s JTF-RH (	secondary QV visually	/ inspected	d Party QV complete repair & reviewed c	ed. ontractor Q	C docume	ntation.		
	Rework		prance by g		Photo Record Attache	d	Repair	Work Vali	dated as Cor	mplete
0	Yes	•	No		See Page 2.		•	Yes	0	No
hereby cert	plug instal	work validate	ed in this	QV ENG	CERTIFICATION	(b)	(6)			
	ersonally sub				DATE	21 JUN 2023				





Existing conditio(b) (3) (A) ine unplugged



Threaded pl(b) (3) (A) e with fuel-resistant thread sealant.

-				QUALITY VALIDATION	(QV) REPO	RT			
				Red Hill Bulk Fuel Storage F	acility Defuel				
Vali	idation Fi <mark>rm</mark>	(h)	1	1 \		- +1	Repair No.	055	
	Address	(U)	4	+/			T 7 7	F24.042	
C	Contract No.	FA89031	5D0007, [	O.O. FA8903-19-F-0027			Report Date		023
Q	V Engineer	(b) (	6)	36124813000			Date		
		( ) (		VALIDATION					
So	urce		DF Page N	Jo. Facility Geogra	phic Area		Location	Reference	
NDAA		43		(b) (3) (A	()			211111	
Repair	Description	connectio	n. Valve o	ed valve mounted on the There is no pipe cap or ote: It is not clear as to the pur lassification is unknown. Providental discharge of product. In	plug at the pose of this ide plug or	Sour	ce Contract Reference	47QSHA1 W912DY2 Service O	1F0025
Co	escription of ntractor QC hod(s) Used	Methods connection	outlined in	QCP. Visually inspected thre			ntractor QC s Reviewed	QCP and Reports.	Daily
Va	ption of QA lidation and Observations	JTF-RH S JTF-RH C	econdary QV visually	ed in QASP.  QA and 3rd Party QV comple r inspected repair & reviewed	ted. contractor Q0	docume	ntation.		
	Rework		prance by §	Photo Record Attach	ed	Repair	Work Vali	dated as Co	mplete
0	Yes	•	No	See Page 2.		•	Yes	0	No
be monito	threaded plored for we	eping.	ed in this	CERTIFICATIO  QV ENGINEER SIGNATURE	N	repacking	g, threade	d connectio	ns will
	personally sub			DATE	21 JUN 20	)23			





Existing condition: no plug/cap on pipeline nipple.



Installed threaded cap on pipeline nipple to prevent accidental discharge.

				QUALITY VALIDATION	(QV) REP	ORT			
				Red Hill Bulk Fuel Storage F	acility Defu	iel			
Va	lidation Firm	16	1	1 \			Repair No.	056	
-	Address	(b	) (4	+)			Repair ID	F24.043	
	Contract No.	FA89031	5D0007, D	.O. FA8903-19-F-0027			Report Date	21 JUN 2	023
	QV Engineer	(b) (	<b>(6)</b>	Series State - Series			Date		
		(0)	(0)	VALIDATION					
C.	ource		PDF Page N	In Exaility Congress	ship Asso		Location	Reference	
IDAA	ource	44	rDr rage r	Io. Facility Geograp  Underground Pum		Various	Location	Reference	
DAA		44		Underground Fulli	p nouse				
Repair	r Description	proceure	relieving o	le fuel drips and weeps comin evices on the valve above the Service valves.		Sour	ce Contract Reference	47QSHA1 W912DY2 Service O	1F0025
C	escription of ontractor QC thod(s) Used		outlined in	QCP.		Contractor QC Reports.  Records Reviewed			Daily
V	iption of QA alidation and Observations	JTF-RH : JTF-RH (	secondary QV visually	ed in QASP. QA and 3rd Party QV completed inspected repair & reviewed		QC docume	ntation.		
			ptance by g	overnment. Date: 01 JUN 2023		1			
$\cap$	Yes	Needed	No	Photo Record Attach See Page 2.	ed	Repair	Yes	dated as Cor	No
o) (3) ( (3) (A)	etor replaced (A) )	threaded	Cont	applied fuel-resistant sealant to ractor replaced gaskets and his positioned for weeping.  CERTIFICATION	ardware (t	the bottom b) (3) (A	)	e basket s	trainer
port was	ertify that repair personally sub			QV ENGINEER SIGNATURE	(D)	o) (6)			
port is tru	Je.			DATE	21 JUN 2023				

# Red Hill Bulk Fuel Storage Facility Defuel





Representative photo of existing conditions: weeping on threaded connections on F-24 pressure relief system.





Replaced threaded plug of bottom of basket strainer, changed gaskets and bolts on spool for F-24 pressure relief system.

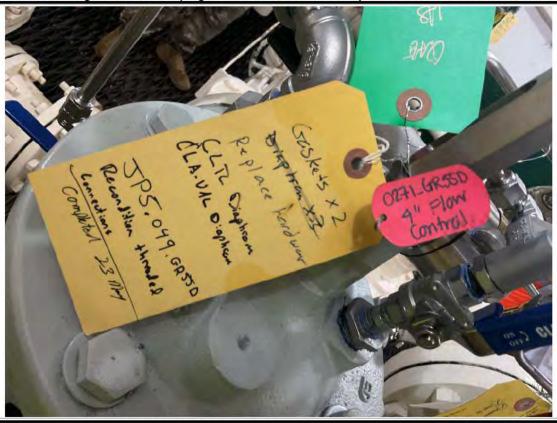
				QUALITY VALIDATION	(QV) REP	ORT			
				Red Hill Bulk Fuel Storage l	acility Defu	el			
Val	idation Firm	(h)		1 \			Repair No.	057	
	Address	$(\mathbf{D})$	4	+ )			5.71	F24.045	
(	Contract No.	FA89031	5D0007, D	O.O. FA8903-19-F-0027			Report		023
Ç	QV Engineer	(b) (	<b>(6)</b>				Date		
		(~)		VALIDATION					
So	ource		DF Page N	Io. Facility Geogra	unhia Araa		Location	Reference	
IDAA	ource	44	Dr rage r	(b) (3) (A			Location	Reference	
DOO.		44			-/				
Repair	Description	Valve flan fastener.	ge for the Insta <b>ll</b> fast	(b) (3) (A)valves is missing ener.	g a	Sour	ce Contract Reference	47QSHA1 W912DY2 Service O	1F0025
Co	escription of ontractor QC hod(s) Used	Methods connection		QCP. Visually inspected bol	ted		ntractor QC s Reviewed	QCP and Reports.	Daily
Va	ption of QA lidation and Observations	JTF-RH S JTF-RH C	econdary QV visually	ed in QASP.  QA and 3rd Party QV compley inspected repair & reviewed	contractor C	C docume	ntation.		
	Rework		stance by g	overnment. Date: 01 JUN 2023 Photo Record Attac		Danair	Work Vali	dated as Co	mplete
0	Yes	•	No	See Page 2.	neu	(•)	Yes	O	No
eeping.	or replaced			flange with stud and nuts. Du  CERTIFICATIO  QV ENGINEER SIGNATURE	)N_	ng, connect	ions will be	e monitored	l for
	personally sub								
	N. Committee			DATE	21 JUN 2023				

			QUALITY VALIDATION	(QV) REP	ORT				
		1	Red Hill Bulk Fuel Storage Fa	cility Defu	iel				
Validation Fi	m	11	1			Repair No.	091		
Addre	ess	(4	)			F 7 11	JP5.049		
Contract N	To. FA8903150	D0007, D.	.O. FA8903-19-F-0027			Report Date	21 JUN 2	023	
QV Engine	er (b) (	6)				Date			
		~/	VALIDATION						
Source	PE	OF Page No	o. Facility Geograp	hic Area		Location	Reference	2	
NDAA	52		Underground Pump	ohouse	Various				
Repair Descripti	pressure re	elieving de	e fuel drips and weeps coming evices on the valve above the es). Service valves.		Sou	rce Contract Reference	47QSHA18D000\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
Description Contractor ( Method(s) Us	QC	utlined in	QCP.		Contractor QC Records Reviewed			Daily	
Description of Q Validation a Observation	QA JTF-RH Q\ and During repa	condary ( V visually acking, co	d in QASP.  QA and 3rd Party QV complet inspected repair & reviewed connections will be monitored for exercise to the connections. Date: 01 JUN 2023	contractor		entation.			
Rework Needed			Photo Record Attache	ed	Repai	r Work Vali	dated as Co	mplete	
Rewo					1000		Later of the Control		
Yes	•	No	See Page 2-3.		0	Yes	0	No	
Yes Comments	lability for the vi	rintage of	See Page 2-3.  valve, Contractor replaced va  CERTIFICATION  QV ENGINEER SIGNATURE		ce of servic	ing.	0	No	





Existing condition: weeping threaded connections on pressure relief assemblies.



Due to parts availability for the vintage of valve, valves were replaced in place of servicing.



Due to parts availability for the vintage of valve, valves were replaced in place of servicing.



Due to parts availability for the vintage of valve, valves were replaced in place of servicing.

-				QUALITY VALIDATION	(QV) REP	ORT			
			R	ed Hill Bulk Fuel Storage	Facility Defu	el			
Val	idation Fir <mark>m</mark>	(b) (4	1)				Repair No.	092	
	Address	(b) (4	1)			- 47	Repair ID	JP5.050	
(	Contract No.	FA89031	5D0007, D.	O. FA8903-19-F-0027			Report Date	21 JUN 2	023
	QV Engineer	(b) (	<b>(6)</b>				Date		
				VALIDATION	N .				
Sc	ource		PDF Page No	. Facility Geogr	aphic Area		Location	Reference	
NDAA		52		Underground Put	mphouse	(b) (3)	(A)		
Repair	Description	(b	)	(3)(4)	4)	Sour	ce Contract Reference	47QSHA1 W912DY2 Service O	1F0025
Do	escription of ontractor QC thod(s) Used		outlined in	QCP. Visual examination of		Contractor QC Records Reviewed			Daily
Va	iption of QA alidation and Observations	JTF-RH		I in QASP. QA and 3rd Party QV complinspected repair & reviewed		QC docume	ntation.		
			ptance by go	vernment. Date: 01 JUN 2023					
$\cap$	Rework Yes	Needed	No	Photo Record Attac See Page 2.	ehed	Repair	Yes	dated as Co	No
Contract	escription Cor replaced f normal ope	(B) (B) (A) V	alves on bo	ace valve (b) (3) (A) th sides of the JP-5 header are closed. During repackin	g, threaded c	onnections			the
				QV ENGINEER SIGNATUR	<b>■</b> (b)	(6)			
	ereby certify that repair work validated in this ort was personally substantiated and this ort is true.			DATE 21 JUN 2023					

# Red Hill Bulk Fuel Storage Facility Defuel





Existing condition: valve weeping by through grate into secondary containment trench.





Replaced (b) (3) (A) valves on both sides of the JP-5 header.

				QUALITY VALIDATION (QV) REP				
				Red Hill Bulk Fuel Storage Facility Def	uel			
Vali	idation Firm	(h)	11	1	71	Repair No.	098	
	Address	(ט)	(	7		Repair ID	F76.069	
C	Contract No.	FA890315	5D0007, D	.O. FA8903-19-F-0027		Report Date	22 JUN 2	023
Q	V Engineer	(b) (	6)		1			
				VALIDATION				
So	urce	P	DF Page N	o. Facility Geographic Area		Location	Reference	
NDAA		61		Underground Pumphouse	Various			
Repair	Description	unsealed	electrical	pen conduits, junction boxes, and ittings throughout the UGPH that will no a ratings. Provide covers on electrical	t Sour	rce Contract Reference	47QSHA W912DY Service C	21F0025
Co	escription of ntractor QC hod(s) Used	cover inst		QASP. Visual examination of outlet gging each repair.		ntractor QC s Reviewed	QCP and Reports.	Daily
Va	ption of QA lidation and Observations	JTF-RH C submittals	econdary 2V visually s, daily rep	QA and 3rd Party QV completed. inspected repairs and reviewed contract	etor QC docu	ımentation	(Work Pla	n,
	Rework	Needed		Photo Record Attached	Repai	r Work Vali	dated as Co	mplete
0	Yes	•	No	See Page 2.	0	Yes	0	No
			Undergrou	nd Pumphouse mezzanine, Contractor i	instal <b>l</b> ed vari	ous outlet	covers to s	eal any
horaby car	tify that repair	waste validate	nd in this	CERTIFICATION  QV ENGINEER SIGNATURE	(6)			



Condulet GUA Cover installation (typical) with QA tags.



Form 5 conduit cover installation (typical) with QA tags.

				QUALITY VAI	LIDATION (	QV) REP	ORT			
				Red Hill Bulk Fue	l Storage Fac	ility Defu	el			
Vali	idation Firm	(h)	11	1			7	Repair No.	099	
	Address	(U)	(4	)			7-44	7.01	F76.070	
C	Contract No.	FA890318	5D0007, D	O. FA8903-19-F-	0027			Report Date		023
Q	V Engineer	(b) (6	5)					Date		
				VAL	IDATION			•		
So	urce	P	DF Page N	o. Fac	cility Geograph	ic Area		Location	Reference	
IDAA		62		Underç	ground Pump	nouse	Various			
Repair	Description	abandone potentially	d/open co	cations throughou nduit penetrates the secondary contrical conduits.	he UGPH floo	r,	Sour	ce Contract Reference 47QSHA18 W912DY21 Service Orc		1F0025
Con	escription of ntractor QC hod(s) Used	cap instal	and the second second second	QASP. Visual exa ling each repair.	amination of t	nreaded		ntractor QC s Reviewed	QCP and Reports.	Daily
Val	ption of QA lidation and observations	JTF-RH C submittals	econdary QV visually s, daily rep	QA and 3rd Party inspected repairs	and reviewe		or QC docu	mentation	(Work Plar	Ŋ.
	Rework		prance by g		ecord Attache		Renair	r Work Vali	dated as Co	mplete
0	Yes	•	No		e Page 2.		•	Yes	0	No
eal any o	s locations exposed co	onduit stubs	s penetrat	nd Pumphouse ming the pumphouse CERT	e floor.				d cast iron	caps to
eport was p eport is true	ereby certify that repair work validate ort was personally substantiated and ort is true.			DATE		22 JUN				



Cast iron round cap installation (typical) with QA tags.



Cast iron round cap installation (typical) with QA tags.

-				QUALIT	Y VALIDATION (	QV) REPO	RT			
				Red Hill B	ulk Fuel Storage Fa	cility Defuel				
Val	idation Firm	/h		11				Repair No.	106	
	Address	(D)	) ( <del>*</del>	+)				Repair ID	F76.079	
(	Contract No.	FA89031	5D0007, D	O.O. FA890	3-19-F-0027			Report Date	21 JUN 20	023
Ç	QV Engineer	(b) (	6)					Date		
					VALIDATION					
So	ource	I	PDF Page N	No.	Facility Geograph	hic Area		Location	Reference	
IDAA		62			(b) (3) (	(A)				
Repair	Description	(b) (3 Install nev	) (A) w wneel ni		vheel nut on valve s	item.	Sour	ce Contract Reference	47QSHA1 W912DY2 Service O	1F0025
Co	escription of ontractor QC hod(s) Used		outlined in	QCP.			Contractor QC Records Reviewed			Daily
Va	ption of QA lidation and Observations	JTF-RH s JTF-RH (	secondary QV visually	/ inspected	d Party QV complete repair & reviewed c		docume	ntation.		
	Rework		otance by g	1	Date: 01 JUN 2023 Photo Record Attache	d I	Renair	Work Vali	dated as Cor	nnlete
0	Yes	•	No		See Page 2.		•	Yes	0	No
nereby cei	or installed	work validate	ed in this	L. T.	certification	(b)	(6			
	personally sub				DATE	21 JUN 20				



Existing condition: valve handwheel missing thread nut. Note: valve in open position in photograph.



Contractor installed nut on handwheel. Note: valve in closed position in photograph.

FA890315D0007, D  (b) (6)  PDF Page N  62  There was noticeab (b) (3) (A) ieving d	Underground P	ON graphic Area	nel	Repair No. Repair ID Report Date	108 F76.081 21 JUN 20	)23	
FA890315D0007, D  (b) (6)  PDF Page N  62  There was noticeab (b) (3) (A) ieving d	VALIDATIO  Facility Geo  Underground P	graphic Area		No. Repair ID Report Date	F76.081	)23	
FA890315D0007, D  (b) (6)  PDF Page N  62  There was noticeab (b) (3) (A) ieving d	VALIDATIO  Facility Geo  Underground P	graphic Area		Repair ID Report Date		)23	
PDF Page N 62 There was noticeab (b) (3) (A) ieving d	VALIDATIO  Facility Geo  Underground P	graphic Area		Date	21 JUN 20	023	
PDF Page N 62 There was noticeab (b) (3) (A) ieving d	To. Facility Geo Underground P	graphic Area					
62 There was noticeab	To. Facility Geo Underground P	graphic Area		Location			
62 There was noticeab	Underground P			Location			
There was noticeab		imphoneo	Location Reference				
(b) (3) (A lieving d	المام	umphouse	Various				
	le fuel drips and weeps con evices on the valve above es). Service valves.	ning from the grating.	Sour	ce Contract Reference	47QSHA1 W912DY2 Service Or	1F0025	
Methods outlined in	QCP.		Contractor QC Records Reviewed			Daily	
JTF-RH secondary JTF-RH QV visually	QA and 3rd Party QV com inspected repair & review	ed contractor (	QC docume	ntation.			
7.0			Danair	Work Vali	dated as Cor	nnlete	
No	7. 1.1.		0	Yes	O I	No	
asket strainer; applied R16E, GR16F, GR16 stant thread sealant,	d fuel-resistant thread seal G, GR16H by replacing hat and changing gaskets. will be monitored for weep	ant. Contractordware, reconning.	r serviced va	alve # GR4	6E, GR46F	,	
	QA methods outline JTF-RH secondary JTF-RH QV visually Final acceptance by go Needed  No gasket and hardware sket strainer; applied 16E, GR16F, GR16 stant thread sealant, readed connections of	Final acceptance by government. Date: 01 JUN 202  Needed Photo Record Atta  No See Page 2  gasket and hardware on (b) (3) (A) on the psket strainer; applied fuel-resistant thread sealant	QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH QV visually inspected repair & reviewed contractor of the process of t	QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH QV visually inspected repair & reviewed contractor QC docume  Final acceptance by government. Date: 01 JUN 2023  Needed Photo Record Attached Repair  No See Page 2.  Qasket and hardware on See Page 2.  Quasket strainer; applied fuel-resistant thread sealant. Contractor serviced variety, and changing gaskets.  The gasket and hardware on the gasket and the g	QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH QV visually inspected repair & reviewed contractor QC documentation.  Final acceptance by government. Date: 01 JUN 2023  Needed Photo Record Attached Repair Work Vali  No See Page 2. Yes  gasket and hardware on See Page 2. Yes  gasket strainer; applied fuel-resistant thread sealant. Contractor serviced valve # GR4 (16E, GR16F, GR16F) by replacing hardware, reconditioning all threaded contact thread sealant, and changing gaskets. readed connections will be monitored for weeping.  CERTIFICATION  Work validated in this stantiated and this	QA methods outlined in QASP.  JTF-RH secondary QA and 3rd Party QV completed.  JTF-RH ov visually inspected repair & reviewed contractor QC documentation.  Final acceptance by government. Date: 01 JUN 2023  Needed Photo Record Attached Repair Work Validated as Cor  No See Page 2. Yes  Gasket and hardware on Contractor serviced valve # GR46E, GR46F, GR16F, GR16G, GR16H by replacing hardware, reconditioning all threaded connections stant thread sealant, and changing gaskets.  Teaded connections will be monitored for weeping.  CERTIFICATION  Work validated in this stanliated and this	

# Red Hill Bulk Fuel Storage Facility Defuel





# Caption



Replaced gasket and hardware on F-76 pressure relief assembly.

				QUALITY VALIDATIO	N (QV) REPO	ORT				
			1	Red Hill Bulk Fuel Storage	Facility Defue	ı				
Val	lidation Firm	(h)	11	1		- 11	Repair No.	110		
	Address	(U)	(4	)		- 47	T 7 11	F76.088		
	Contract No.	FA89031	5D0007, D	O. FA8903-19-F-0027			Report Date		023	
(	QV Engineer	(b)	(6)				Date			
				VALIDATIO	N					
S	ource		PDF Page N	o. Facility Geog	eranhic Area		Location	Reference		
IDAA		63	174 8 8 20	(b) (3)	(A)					
Repair	r Descriptio	(b) Valve cla	(3 ssification i	A) (A) s unknown. Install plugs.		Sour	ce Contract Reference	47QSHA1 W912DY2 Service O	1F0025	
Description of Contractor QC Method(s) Used				QCP. Visual inspection of	threaded		ntractor QC s Reviewed	QCP and Reports.	Daily	
V	iption of QA alidation and Observations	JTF-RH		d in QASP. QA and 3rd Party QV comp inspected repair & reviewe		C docume	ntation.			
			ptance by go	vernment. Date: 01 JUN 202		D:				
_	10.7	Needed		Photo Record Att			0.00	dated as Cor	7.7	
omment	Yes	•	No	See Page 2		•	Yes	O	No	
b) (	(3) ( $A$	A) readed co	nnections v	vill be monitored for weepi						
hereby certify that repair work validated in this				QV ENGINEER SIGNATURE (b) (6)						
	reby certify that repair work validated in this ort was personally substantiated and this ort is true.			QV ENGINEER SIGNATO	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	$( \cup )$				





Existing condition: (b) (3) (A) ball valve on FOR line without plug at Surge Tank 3.



New nipple, ball valve and threaded plug installed on block nipple on FOR line at Surge Tank 3.





Existing condition ball valve on FOR line without plug at Surge Tank 4.



New threaded plug installed on inipple on FOR line at Surge Tank 4.

		QU/	ALITY VALIDATION (QV)	REPORT			
		Red Hi	ill Bulk Fuel Storage Facility	Defuel			
Validation Firm	(h)	11	1		Repair No.	236	
Address	(U)	(4	)	7 7 7	Repair ID	See Com	ments
Contract No.	FA890315D00	07, D.O. FA	8903-19-F-0027		Report Date	22 JUN 2	023
QV Engineer	(b)(6)				Dute		
			VALIDATION				
Source	PDF P	age No.	Facility Geographic Ar	rea	Location	Reference	
NAVFAC EXWC	NDAA Page 53		Tank Gallery	(b) (3	(A)		
Repair Description	spool piece at	PS 20. Spo	levation and alignment chang ol is flanged and includes two ht segment. [18-TG-25]		ce Contract Reference	the state of the state of the state of	
Description of Contractor QC Method(s) Used		ned in detail i	in CQCP.		COCP and E Reports Records Reviewed		d Daily
Description of QA Validation and Observations	4296/2. Visually material submit JTF-RH seconda JTF-RH QV visua daily reports).	vinspected co ttals. Reviewe ary QA and 3r ally inspected	nce is documented by the QSR' ompleted installation; matched ed NDE reports. ed Party QV completed. d repairs and reviewed contract	completed const	ruction aga	inst design	and
Rework	Needed	of governmen	Photo Record Attached	Repai	Work Vali	dated as Co	mplete
Yes	( )	No	See Pages 2-3.	•	Yes	0	No
Comments							
comments  (b) (3)  thereby certify that repair eport was personally sub-	r work validated in th	nis QV E	CERTIFICATION ENGINEER SIGNATURE	o) (6)			

# **QUALITY ASSURANCE VALIDATION REPORT**

# Red Hill Bulk Fuel Storage Facility Defuel





Existing condition of pipe at Pipe Support 20. Corrosion on offset alignment spool.

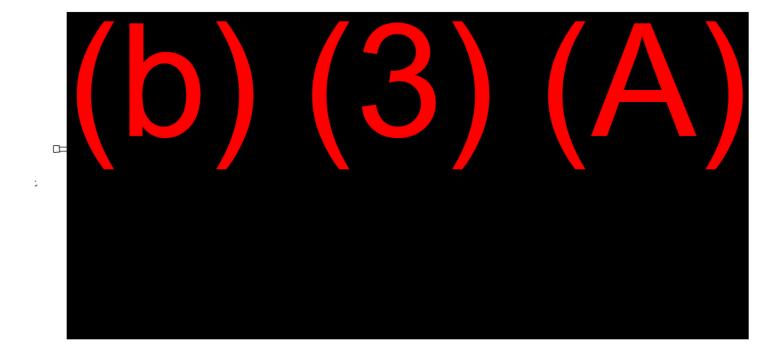


New offset spool installed at Pipe Support 4.

<b>EMERGEN</b>	T PIPELINE	REPAIRS
----------------	------------	---------

EPAIR ID				ROOT PASS				Repa	ir 236			-	COVER PASS				-	
(3) (A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
	SHOP WELD							(b) (6)	02 / 05 / 2022				- 1				04 / 05 / 2022	(b) (
																6	04/04/2022	
									A									
				ROOT PASS				T	, I				COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD		-				-		02/05/2022	-	-			-	)	P	04 / 05 / 2022	
							1				[] L					P	04/04/2022	
											112 =							
				ROOT PASS				T					COVER PASS					-
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD		11 = 11						02/05/2022	+ =	1 11				0	P	04 / 05 / 2022	
														11.77		P	04/04/2022	
							11											
	ROOT PASS					COVER PASS								7				
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DA7E		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD		-						02/05/2022						1	P	04/05/2022	
							1				استنا					P	04 / 04 / 2022	
								P.							1		1.	
	L ==			ROOT PASS									COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD								02 / 05 / 2022		1				D	р	04 / 05 / 2022	
		1		1							111		11		1. 4	P	04 / 04 / 2022	
			The state of the s	ABOLDARY				The state of the s					COVER PASS		w			
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	(b) (6)	MT / PT P/F	DATE	(b) (6)	RT P/F	DATE	INSPECTO
	P	01/10/2023	-	01/11/2023	. e	(b) (6)	01/11/2023	(b) (6)	01/12/2023	P	01/12/2023	(b)(6)			(b) (b)	p	02/07/2023	(b) (
													P	02/28/2023		Arc strike noted t		
			11 +1	11-			1 - 1			+	11-							
	5 == -			ROOT PASS									COVER PASS					
	FITUP P/F	DÀTE	WELDER	DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P:	01/10/2023		01/11/2023	P		01/11/2023		01/12/2023	р	01/12/2023					P	02/07/2023	

WELD MAP
WELD MAP
WELD MAP



CONTRACT N39430-15-D-2225 TO N3943021F4207 STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - UPPER PIPING FLE NO. G-1 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

### SHEET NOTES:

- 1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS 1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH ARE FOR RESTRANT OF PIPING WHILE TANKS ARE OUT OF SEMICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FULL USE.

  2. ROCKORPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELLS FOR TEMPORARY AND WELLS, EXCEPT HOSE DENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HOMOSTATIOLLY TESTED WITH WARET TO 425 PISE FOR NOT LESS TIEM 4 HOURS.

  4. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, BENTFIED AS "HORSE-CHAPT" TE-IN WELDS" ARE SUBJECT TO TE-IN WELD S'AMINATION.

### TE-IN WELD EXAMINATION

- TE-N WELD EXAMINATION

  1. IN ADDITION TO FINAL PROJOGRAPHIC EXAMINATION, TE-N WELDS
  IDENTIFIED AS "HYDRO DEBUPT TIE-IN WELDS" MUST RECEIVE AN
  EN-NACED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME
  BIST, SECTION 344.7.

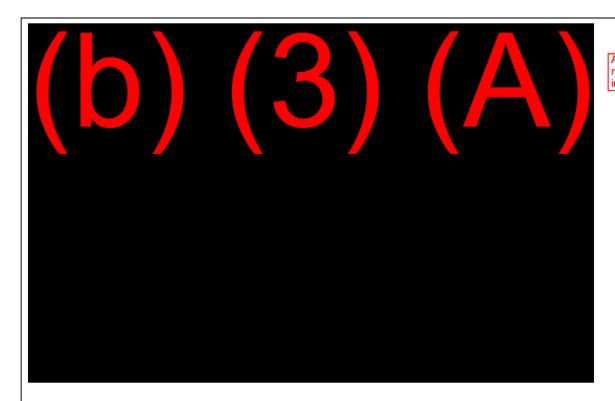
  2. IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME
  BIST, SECTION 344.7.

  2. IN-PROCESS EXAMINATION IN ACCORDANCE BY A CERTIFIED
  LIFELY OF A CONTROL OF A CONTROL OF A CERTIFIED
  LIFELY OF A CONTROL OF A CONTROL OF A CONTROL
  LIFELY AND A CLEARANCE, AND INTERNAL AUGINEMENT PRIOR
  TO JOHNING.

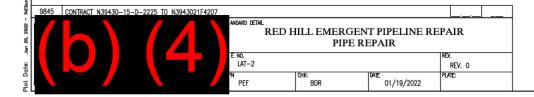
  2. MARKHELS SPECIFIED BY JOHNING PROCEDURE INCLUDING
  FILLER MATERIAL POSTION AND ELECTRODE.

  2.5. INTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
  2.6. SIAZA REMOVAL AND WELD CONDITION.

  3. CLUSSIER WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND
  100X REQUISIORATION AND WELD CONDITION.
  13. CLUSSIER WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND
  100X REQUISIORATION AND WELD CONDITION.
  15. TESTING IN ACCORDANCE WITH ASME BIST, SECTION 345.2.3.



All Item M welds were made in shop, radiographed and hydrotested prior to installation in the field



**CONSTRUCTION SUBMITTAL** 

14	11	11	1 \
1	וי	1	T /

# RADIOGRAPHIC INSPECTION REPORT

(b)	(4)	W. O. No.: 77-098
		Report No.: 6540422
	Date:	4/4/22
	Page	of C

сизтомен (b) (4)	CUST JOB#	SPECIFICATION	ASME V	ACCEPTANCE ASME B31.3	1. Single Wall
PROJECT (Led	DWG. NO.			ACC. PROC. B31.3 REV ZOIS	
RT SOURCE TRIST FIL	M AGFA DS PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS	
SOURCE	$O \setminus \langle A \rangle$	TYPE 113	TECHNIQUE USED	THICKI(b) (3)	(A) Panoramic
FOCAL S	31 (A)	MATERIAL SS	EXPOSURE TIME 4;		Single Wall
SFD	(' ')	LOCATION F	PROCESSING MA	ANUAL PIPE DE	
WELD #	GEOMETRIC UNSHARPNESS 'UG'			REMARKS	Offset  3. Double Wall
(3) (3) (	1 X 020.	ffff	1111	7	( )•
U) (3) (1	/X			3	
	X			2	4. Double Wall 0/90
	/ X			7	
				3	
	1020 X			2	Elliptical
	/x/ x			-	5. Plate •
	X			3	
	XX	24-54-55		2	
***	* * * * * * * * * * * * * * * * * * * *	X X X X	ر لم لم لم لم	()	6. Other
/1 \ //	21				
(b) (6	<b>O</b>		T	4/4/22	
, ,			C-1A Level	Date of Inspection	Customer

1	h )	111
	O	(4)
1		\ - /

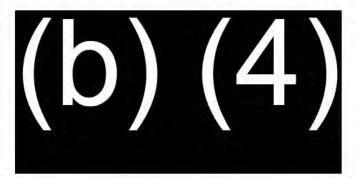
# RADIOGRAPHIC INSPECTION REPORT

(b) (4)	
	W. O. No.: 72.058
	Report No.: 4/4/22
Page	~ of ~

Date of Inspection

TC-1A Level

WELD #	UNSHARPNESS *UG*		REMARKS
b) (3) (A	102c X		
	X		
	ou X		
	TX X		
	X		
	1	3	
	10700 X		
	X		
	/ X	1x11113	
	min	- Cumuluuluu	
		(b) (4)	



HYDROSTATIC TEST FORM

	(h)	(1)	(h)	(3)	$(\Lambda)$
CLIENT:	$(\mathbf{D})$	(4),	(D)	(3)	$( \frown )$

SYSTEM

Proje	ect Name:	Red Hill Emergent	Pipe Repairs	_		
Syste	m Description Starting poin	(b) (	3) (A)			
Co	nnection Point Ending point	()				
P	SI Req.:		Time	Req.:	4 hours	
tart of	Test Period:	Time:	10:00 AM	Date:	5-Apr-22	
End of	Test Period:	Time:	10/31/1903 14:00:00 PM	Date:	5-Apr-22	
No.	Time	PSI READING		Remarks		
1	10:00 AM	(b) (3) (A	Holding To	Start of te	st NO VISIBIE 181	7Ke
2	10:15 AM	(b) $(3) (A)$	Holding	1 00 VISI		
3	10:30 AM		11	1 21	٠ ١١	
4	10:45 AM		H		16	
5	11:00 AM		16	V.	TI.	
6	11:15 AM		p		il.	
7	11:30 AM		$f_i$ $f_i$		11	
8	11:45 AM		4		11	
9	12:00 PM		Heat From sun	increasing v	Pressure	
10	12:15 PM		k w	7	IV	
11	12:30 PM		n H		1	
12	12:45 PM		11			
13	1:00 PM		k tt		ii .	
L4	1:15 PM		ti II		ıt	
.5	1:30 PM		Holding Pressure,	No leaks		
L6	1:45 PM		*		ŋ	
17	2:00 PM		released pressure	buck to	(b) (3) (A) p s t	

PSI Gauge Maufacturer:	Ashcroft 0-600 - calibrated 4-2-22	
Test Witness Client:		
Test Witness (b) (4)	(b) (6)	

				QUALITY VALIDATION	ON (QV) REPO	DRT				
			1	ted Hill Bulk Fuel Storag	ge Facility Defue	l				
Val	idation Firm	1h	1	1			Repair No.	17/10		
	Address	(D	"	+)			Repair ID	EPRC.K.d	1	
(	Contract No.	FA890315	5D0007. D.	O. FA8903-19-F-0027			Report	22 JUN 2	023	
	V Engineer	/L\ /	<b>(6)</b>				Date	25620 2		
	C*	(,,,,	, ,	VALIDATI	ON					
So	ource	P	DF Page N	. Facility Geo	ographic Area		Location	Reference		
xwc		WITH A I	ge 54 & 75	( a so a s		(b) (3)	(A)			
Repair	Description	Remove a connectio welded pu	e bell 60. Provide 6 lf	Sour	ce Contract Reference	N3943020 N3943021				
Description of Contractor QC Method(s) Used  Methods outlined in detail in CQCP. Properties in the contractor QC Method(s) Used					ds 100%		ntractor QC s Reviewed	CQCP and Reports	d Daily	
Va	ption of QA lidation and Observations	4296/2. Vis material so JTF-RH sec JTF-RH QV daily repo	sually inspe ubmittals. R condary QA visually ins rts).	Assurance is documented be cted completed installation eviewed NDE reports. and 3rd Party QV complete pected repairs and reviewe vernment. Date: 14 JUN 20	n; matched compled. ed. ed contractor QC o	leted const	ruction aga	inst design	and	
	Rework	Needed		Photo Record At	tached	Repair	Work Vali	dated as Cor	mplete	
0	Yes	•	No	See Page	2.	•	Yes	0	No	
piping. N	or removed ew welds w ult table, NE	ere 100%	radiograph	ection between PS 59 artically tested.  veld map/design detail in CERTIFICAT	cluded for refere		piping wit	h butt weld	ed	
horoby an	I hereby certify that repair work validated in this report was personally substantiated and this report is true.			QV ENGINEER SIGNATU	IRE IN THE					

### **QUALITY ASSURANCE VALIDATION REPORT**

# Red Hill Bulk Fuel Storage Facility Defuel





Existing condition of pipe at PS 59-60 of pipeline bell connection completed by fillet weld instead of butt welded connection.



Contractor installed 6 LF (b) (3) (A) JP-5 line between PS 59 and 60 to replace pipeline bell connection.

### EMERGENT PIPELINE REPAIRS

(1)			ROOT PASS									COVER PASS					
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPI
SHOP WELD							(b) (6)	02/05/2022	1				-	1 1	P	04 / 05 / 2022	(b)
															· ·	04/04/2022	
											-						
- French	1		ROOT PASS	100					No.	1		COVER PASS	1				
P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
SHOP WELD		10000	-	-				02 / 05 / 2022	-	11					P	04 / 05 / 2022	
						-			-						k	04/04/2022	
			ROOT PASS					-				COVER PASS					
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
SHOP WELD			-	1,1				02/05/2022	- 60		-	He			P	04/05/2022	
															P	04/04/2022	
	ii I							1									
7			ROOT PASS									COVER PASS					
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
SHOP WELD								02 / 05 / 2022	-	14		-	-	1	þ	04 / 05 / 2022	
											4		-	1	P	04 / 04 / 2022	
			ROOT PASS									COVER PASS					
FITUP	DATE	WELDER	DATE	VT	INSPECTOR	DATE		DATE	VT	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT	DATE	
P/F SHOP WELD			1 - 40 - 1	P/F				02 / 05 / 2022	P/F		1000000	P/F	1.00	0.7,275	P/F	04 / 05 / 2022	
														1. 1.1	P	04/04/2022	
			1777.1	Lan													
***	***	**	ROOT PASS	**	***	* * *	i	r 240	* *	* * *	***	COVER PASS	**	<del>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</del>	XX	XXX	
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTAGE	DATE		DATE	VT P/F	DATE	(b) (6)	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
P	01/10/2023	11 1	01/11/2023	P.	(b) (6)	01/11/2023		01/12/2023	P	01/12/2023	(p) (p)		1	b) (6)	h	02/07/2023	
												Р	02 / 28 / 202	b) (6)	Arc strike noted	by EXWC	
			noor title									in the second		,			
FITUP	17	II Tapatan T	ROOT PASS	VT		1		-3	VT	T 34		COVER PASS MT / PT	T wiles	- Incompany	RT	T win	
P/F	DATE	WELDER	DATE	P/F		DATE		DATE	P/F	DATE		P/F	DATE	INSPECTOR	P/F	DATE	
₽.	01/10/2023		01/11/2023	P		01/11/2023		01/12/2023	P	01/12/2023					P	02/07/2023	

9845 CONTRACT N39430-15-D-2225 TO N3943021F4207 STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - LOWER PIPING FLE NO. G-2 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

### SHEET NOTES:

- REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANDON RAPPORESE FIRE BLANGET FREZOOSSISS, 2—INCH THICK, EXITENDED 12—INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STILL 440 RESTRANT ROOS. FIELD WESTEY UNENSIONS OF DRESSER COUPLING PRIOR TO ORDERING EINER STANDARD OF DRESSER COUPLING PRIOR TO ORDER THE STANDARD ORDER
- Components noted as temporary (identified with cross hatch) are for restraint of piphor while trans are out of service and will not be subject to inferme. Pressures. Label pring to indicate it is not for fuel.

- USE

  3. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPERORY AND PERMANENT COMPONINTS.

  4. ALL SHOP PERFORMED WIDE, SOKEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSIATICALLY TISTED WITH MATER TO 425 PISE FOR NOT LESS TIEN 4 HOURS.

  5. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-DEMPT TIE-I'M WELDS" ARE SUBJECT TO TIE-I'M MELD SYMMATION.

- TE-IN MELD DAMINATION

  1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS UDDITTIED AS THORSE CEMINIT TIE-IN WELD'S MAJE RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASIE B31.3 SECTION 344.7.

  1. IN-PROCESS EXAMINATION MIST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:

  2.1. JOHN PEPPRARION AND CLEANLESS

  2.2. PREHEATING.
  2.3. IT-IP-J. JOHN CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOHNING.

- TO JOHNIG.

  2.4. VARNELES SPECIFIED BY JOHNIG PROCEDURE INCLUDING HILER MATERIA, POSTION AND ELECTRODE.

  2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.

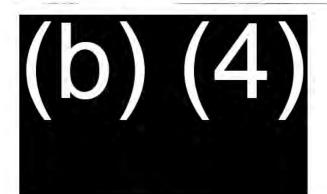
  2.6. SLAG REMOVAL AND WELD CONDITION.

  2.7. APPEARMEC OF THE RINHSHED JOHN.

  3. CLOSHE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND TOOM PROCESS TO APPEAR OF THE RINHSHED JOHN.

  1007 RENDOMERHE EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SPECION IA-82.

# (b) (3) (A), (b) (4)



# RADIOGRAPHIC INSPECTION REPORT

сиsтом(b) (4) сиsт Jов#	SPECIFICATION ASMEV	ACCEPTANCE ASME B313	1. Single Wall
PROJECT FOR HILL PAGE NO.  RT SOURCE ING FILM AGE ADS PB SCREENS	PENS: ASTM SHIMS MAT'LTHKN	ACC. PROC. \$31.3 REV 7015  MATERIAL CS	
	TYPE 18 TECHNIQUE USED	<b>3</b> (b) (3) (A)	Panoramic
		4:00	2. Single Wall
SE GEOMETRIC	1/8/8/1/	MANUAL AUTOMATIC REMARKS	Offset  3. Double Wall
(b) (3) (A) (B) (C) X		(b) (3) (A)	•
			4. Double Wall 0/90
1026 X		}	Elliptical
		3	5. Plate •
			6. Other
(b) (6)	SNT-TC-1A Level	7/7/23  Date of Inspection	Customer

	(D)	(4)		Job No.:		Page 1 of 1	
		Report No. G	S022823		0000.00	istomer spec. The crucks	
MATERIA	L	PI	ENETRANT MA	TERI	AL	TECH	NIQUE
YPE: ARC Strikes		BRAND	DESIGNATION	PO#	BATCH#	Preclean Drying Time:	
Surface Condition:  As Welded	Cleaner	Magnaflux	SKC-S	N/A	1A01K 030929	Method of Application:	Brush
Ground Other Weld Prep	Penetrant	Magnaflux	SKL-SP1	N/A	06010K 04394	Dwell Time: 10 Min	
New weld	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A	
	Developer	Magnaflux	SKD-S2	N/A	07K15K 08738	Developing Time: 15 M (b) (4)	in
Temperature: $\underline{X}$ 60° F – 125° F Other		Illumination:	White	FC 150	14.7	Control # UV Meter N/A	1
Item(s)	Accept	Reject Sk	etch/Notes				
b) (3) (A)			Custo			k for cracks after arc strike	removal.
5) (5) (1.)		700		No	indications no	ted at time of inspection.	
		П					
		Ē					
		FIET I					

	QUALITY VALIDATION (QV) R	REPORT	
	Red Hill Bulk Fuel Storage Facility I	Defuel	
(h) ()	1\	Repair	241
(0)	+)		EPRC.K.r
FA890315D0007	D.O. FA8903-19-F-0027	Report	22 JUN 2023
		Data	
	VALIDATION		
PDF Page	No. Facility Geographic Area	*	
NDAA Page 75	Tank Gallery	(b) (3) (A	/
(b)	(3)(B)	Source Contract Reference	N3943020D2225 N3943021F4207
inspection via Ra inspection via Ph		CQCP and Daily Reports	
4296/2. Visually in: material submittal JTF-RH secondary JTF-RH QV visually daily reports).	spected completed installation; matched of s. Reviewed NDE reports. QA and 3rd Party QV completed. inspected repairs and reviewed contracto	completed construction aga	inst design and
		Repair Work Vali	dated as Complete
O No	See Page 2.	( Yes	O No
	*	eference.	
	PDF Page NDAA Page 75  Methods outlined inspection via Ra inspection via Phase inspection via	PDF Page No.  PDF Page No.  Facility Geographic Are Tank Gallery  Methods outlined in detail in CQCP. Pipe butt welds 100' inspection via Radiographic Testing, Weld o-let connection inspection via Phase Array Ultrasonic Testing (PAUT).  Government Quality Assurance is documented by the QSR's 4296/2. Visually inspected completed installation; matched of material submittals. Reviewed NDE reports.  JTF-RH QV visually inspected repairs and reviewed contractor daily reports). Final acceptance by government. Date: 14 JUN 2023  k Needed  Photo Record Attached  No  See Page 2.  DE inspection report, weld map/design detail included for re- page 2.	Repair ID  FA890315D0007, D.O. FA8903-19-F-0027  (b) (6)  PDF Page No. Facility Geographic Area Location  NDAA Page 75  Tank Gallery  Methods outlined in detail in CQCP. Pipe butt welds 100% inspection via Radiographic Testing, Weld o-let connection inspection via Phase Array Ultrasonic Testing (PAUT).  Government Quality Assurance is documented by the QSR's in the daily CQC reports usin 4296/2. Visually inspected completed installation; matched completed construction again anterial submittals. Reviewed NDE reports.  JIT-RH secondary QA and 3rd Party QV completed.  JIT-RH QV visually inspected repairs and reviewed contractor QC documentation (Work daily reports).  Final acceptance by government. Date: 14 JUN 2023  k Needed Photo Record Attached Repair Work Vali  No See Page 2.  Yes  DE inspection report, weld map/design detail included for reference.

# **QUALITY ASSURANCE VALIDATION REPORT**

# Red Hill Bulk Fuel Storage Facility Defuel



Branch connection to tank lateral piping. No existing condition photograph available.



18x12 branch connection by welded o-let connection. Array decals from PAUT examination.

### **EMERGENT PIPELINE REPAIRS**

(A)				ROOT PASS									COVER PASS					
(A)	FITUP P/F	DATE	WELDER (b) (7)(A)	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	(b) (
	P	01/18/2023	—(b) (7)(A)	01/18/2023	ρ	(b) (6	01 / 19 / 2023	(b) (6)	01/18/2023	р	01/19/2023	(b) (6)			1	P	02 / 06 / 2023	(b) (
				ROOT PASS									COVERPASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	01/18/2023		01 / 19 / 2023	P		01 / 19 / 2023		01 / 19 / 2023	P	01/19/2023					P	02/06/2023	
				ROOT PASS									COVER PASS	1	1 -			
1	FITUP	DATE		DATE	VΓ		DATE		DATE	Vt	DATE		MT/PT	DATE	INSPECTOR	RT	DATE	
	P/F	01/23/2023		01/23/2023	P/F		01 / 23 / 2023		01/23/2023	P/F	01/23/2023		P/F	WHILE	warzejoij	P/F	Serie	
		02/25/2025		0171371015	2		01/13/10/3		01/24/2023	P	01/24/2023			-		P	02/06/2023	
										•	under NCN-001							1
Ì				ROOT PASS									COVER PASS					3
1	P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD								02/03/2022					-		þ	04/21/2022	
				2007.045									equen hare		1			
	FITUP	DATE	WELDER	ROOT PASS DATE	VT	Mentered	DATE	-	DATE	VT	DATE	INSPECTOR	COVER PASS MT / PT	DATE	INSPECTOR	RT	DATE	
	P/F SHOP WELD	DATE	WELDER	DATE	P/F	INSPECTOR	DATE		62 / 03 / 2022	P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	P/F	04/21/2022	
	4120,305								3.6.6.9						1		110000	
				ROOT PASS									COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD	-		10-00-01	- 17				02/03/2022	11 -	-	-			1	p)	04/21/2022	
15				ROOT PASS									COVER PASS					
	FITUP P/F	DÀTE	WELDER	DATE	VT P/F	INSPECTOR	DATE	(b) (6	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	(b)
	P	01/16/2023	(b) (	6 /2023	P	(b) (6)	01/16/2023	(D) (D	01/16/2023	р	01/15/2023	(b) (6				ę.	02/06/2023	$\Pi(\mathbf{D})$

) (A)				ROOT PASS								7 7	COVER PASS				a.	
/ ( )	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTO
	P	01 / 16 / 2023	(b) (6)	01 / 16 / 2023	P	(b) (6)	01 / 16 / 2023	(b) (6)	01/16/2023	P	01/16/2023	(b) (6)	)			P	02 / 06 / 2023	(b) (
				ROOT PASS									COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	01/20/2023		01/20/2023	P		01 / 20 / 2023		01/23/2023	P	01/23/2023					P	02 / 06 / 2023	
		1										<u> </u>				1	11 7	
	FITUP			ROOT PASS	ur				r	100	r -	r - r	COVER PASS	1		- 07		
	P/F	DATE	WELDER	DATE	VI P/F	INSPECTOR	DATE		DATE	P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD		1	1			1		02/04/2022	+ -	-	# = =			)	P	04/21/2022	
							1-11-1											
	200			ROOT PASS					_	-	r		COVER PASS	r .			r	
	P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD								02/04/2022							P	04/21/2022	
												1						
				ROOT PASS									COVER PASS	•	, ,			
	P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	b) (6	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	01/20/2023	(b) (6)	01 / 20 / 2023	P	(b) (6)	01 / 20 / 2023		01/23/2023	р	01/23/2023	- / (-	-			P	02 / 06 / 2023	
	FITUP	DATE		ROOTRASS	VT	Ĥ	DATE		DATE	VT	DATE		OVER PASS MT / PT P/F	DATE	INSPECTOR	RT	DATE	
	P/F			DATE DA / 2022	P/F	-				P/F			P/F	DATE	INSPECTOR	P/F	02/07/2023	
		01/24/2023		01/24/2023			01 / 24 / 2023		01 / 25 / 2023		01 / 25 / 2023						WZ 7 07 7 2025	
				ROOT PASS						-			OVER PASS					
	FITUP	DATE		DATE	VT		DATE		DATE	VT	DATE		MT/PT	DATE	INSPECTOR	RT	DÁTE	
-	P/F	01/25/2023		01/25/2023	P/F		01/25/2023		01/26/2023	P/F	01/27/2023		P/F	-47.5		P/F	02/07/2023	
		and make a		and making			377 577 8330		427 227 8383		32,37,400						22, 37, 12923	

WELD MAP
WELD MAP

9845 CONTRACT N39430-15-D-2225 TO N3943021F4207 STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - LOWER PIPING G-2 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

### SHEET NOTES:

- REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANDON RAPP-RISE FIRE BLANKET PREZODSSISS, 2-INCH THICK, EXTENDED 12-INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STILL 440 RESTRANT ROOS. FIELD WERFY UMENSIONS OF DRESSER COUPLING PRIOR TO ORDERING EINER BILLIANCE.
- Components noted as temporary (identified with cross hatch) are for restraint of piphor while trans are out of service and will not be subject to inferme. Pressures. Label pring to indicate it is not for fuel.

- USE

  3. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPERORY AND PERMANENT COMPONINTS.

  4. ALL SHOP PERFORMED WIDE, SOKEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSIATICALLY TISTED WITH MATER TO 425 PISE FOR NOT LESS TIEN 4 HOURS.

  5. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-DEMPT TIE-I'M WELDS" ARE SUBJECT TO TIE-I'M MELD SYMMATION.

- TE-IN MELD DAMINATION

  1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS UDDITTIED AS THORSE CEMINIT TIE-IN WELD'S MAJE RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASIE B31.3 SECTION 344.7.

  1. IN-PROCESS EXAMINATION MIST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:

  2.1. JOHN PEPPRARION AND CLEANLESS

  2.2. PREHEATING.
  2.3. IT-IP-J. JOHN CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOHNING.

- TO JOHNIG.

  2.4. VARNELES SPECIFIED BY JOHNIG PROCEDURE INCLUDING HILER MATERIA, POSTION AND ELECTRODE.

  2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.

  2.6. SLAG REMOVAL AND WELD CONDITION.

  2.7. APPEARMEC OF THE RINHSHED JOHN.

  3. CLOSHE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND TOOM PROCESS TO APPEAR OF THE RINHSHED JOHN.

  1007 RENDOMERHE EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SPECION IA-82.

# (b) (3) (A), (b) (4)

	h)	
1		

# RADIOGRAPHIC INSPECTION REPORT

(b)	(4)	:			
		W. O. N	lo.: <u> </u>	3-0	23
		Report	No.: 9	<u> 252</u>	0623
	Date	:	[[e]	73	
	Page	. (	of		

Customer

сиѕтоме(b) (4)	CUST JOB#	SPECIFICATION	ASME V	ACCEPTANCE ASME 1313	1. Single Wall
PROJECT REL HIT DIPING	DWG. NO.	1	UDDOW REV C	ACC. PROC. 831.3 REV ZUIS	
	FA DC PB SCREENS P	ENS: ASTM	SHIMS MAT'L/THKNS	1	
sor / A \ / O		YPE , B	TECHNIQUE USED	$_3$ THICKN (b) (3) (A)	Panoramic
FOO	) (A)	ATERIAL SS	EXPOSURE TIME 4	JOINT T	2. Single Wall
SFI	/ \	OCATION (=	PROCESSING 1	MANUAL AUTOMATIC PIPE DI	
		1/2//			
# 0 # A	GEOMETRIC UNSHARPNESS				Offset
WELD#	"UG" COLUMN TO THE		\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	REMARKS	3. Double Wall
(b) (2) (A)	////	<i>"""</i> "		(3) (A)	
(b) $(3) (A)$	.020 X				•
them.					
Name of the Control o					4. Double Wall 0/90
_				····	
<b>***</b>				***************************************	
******	2020 X				Elliptical
- where				······································	5. Plate •
_					
MACA					
***************************************					6. Other
/1 \ /6	1				

SNT-TC-1A Level

Date of Inspection

(b) (	4)	RADIO	GRAPHIO	C INSPE	CTION REP	ORT	(b) (4) N. O. No.: 73-073  Report No.: 65020673  Page 2 of 7		
(b) (3) (A)	-020 X				<i>, , ,</i>	(3) (A)	REMARKS		
	,070 X								
	, 0 20 X X								
	. oce, X								
			(b		(6)	エ T-TC-1A Level	- Data of	Z/4/23 Inspection	

1	h)	11	
1			

# RADIOGRAPHIC INSPECTION REPORT

(b) (4)	D. No.: Z	2-098
Rep Date:	ort No.: _	6541927 1/22
Page	of	3

™(b) (4) <u></u>	CUST JOB#		B31. 3 ASHED ACCEPTANCE ASME R31	
JEC -	DWG. NO.		SHIMS MATEURING ACC. PROC. 831.3 REV ZO	((•))
OURCETR 92 FILM A	GFH DS PRICHEENS	TYPE AB	TECHNIQUE USED 3 THICKI	A) Panoramic
(b) (3	3) (A)	MATERIAL &S		Single Wall
(D)	, ( <i>\</i>	LOCATION F	PROCESSING MANUAL PIPE D	
	orougetole /	///3//	\$/\$/////	
WELD #	GEOMETRIC UNSHARPNESS		PARTE PARTE	Offset  3. Double Wall
FM R	///	\delta   del   del	PARKS	J. South Well
o) (3) (A	.0Ze, X			
// (0) (/				
	/ X			4. Double Wall 0/90
	060,X		++++	<u> </u>
	/ X		++++	Elliptical
	/ X			5. Plate *
	(V			
	X Juso.			6. Other
	/ X			

(b) (6)

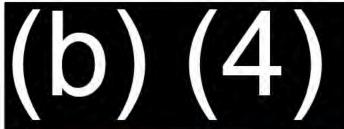
TC-1A Level

1/19/27
Date of Inspection

Customer

D)	(4		GRAPHIC INSPECTION REPORT				Pa	V. O. No.: <u>ZZ-098</u> leport No.: <u>GS4/9 Z</u> Z lige <u>Z</u> ot <u>3</u>
NEW#	GEOMETR UNSHARP	IC NESS					REM	MARKS
(b) (3) (A	050.	x T	$\Box\Box$	$\mathcal{L}$	$\prod$			
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				0)	16			
							T	5505-91-4





Project

Client

90 to 270 degrees

Contact Location

Date

05/30/2023

Project Project No.

Inspection No.

Description

Group 1

Inspector Name

(b) (6)

Time

14:38

Inspector Licence

Total pages

9

### Instrument Specifications

Instrument

OmniScan X3

Data File Name Report-90-270-group1.odat

Instrument Serial

QC-0075037

Software Version

OmniPC 5,6,0

Inspection Version 5,6,0,2057

Model

OMNIX3-PA1664PR





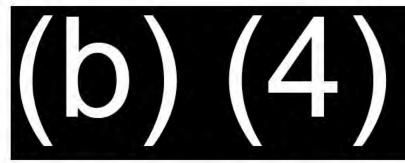
Part & Weld

Project objective is to examine the weld between an up to ducing weldolet. The pe wall thickness i part (group) scan plan is utilized to ensure complete were coverage. The global zero reference origin location is at the top-deadcenter of the primary ipe on the upstream (uphill) side. Angular measurements are clockwise from the origin. Linear measurements in the scan data are in inches and represent the distance along the path followed by the transducer from a local origin (either the 90 or 270 degree locations). Beam diagrams were developed from surface data obtained by a 3D laser surface scanning tool, ensuring actual base metal and weld geometries were addressed in the planning phase. 4 beam plans are used to cover a single quadrant of the pipe circumference (0 to 90 degrees). Scanning in the remaining three quadrants is guided by the same beam plans by utilizing the symmetric nature of the pipe and weld configuration.

### Inspection Summary

Scan of 360 degrees, measured from top center of (b) (3) offset as defined in scan plans. Hard return signals from the cut edge of the corner trap dominate the root area of the weld. Root examination is performed from other scan groups, Near-side HAZ, weld mid-plane and far-side HAZ evaluated, Several relevant indications identifed throughout the weld volume. No relevant indications meet rejection criteria of ASME BPVC 31.3.





# **Examination Results**

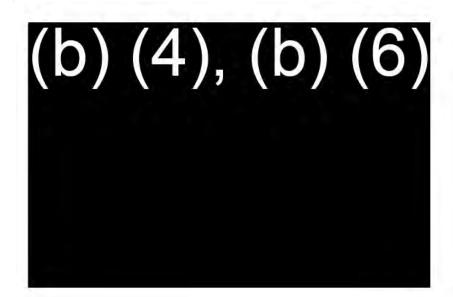
September 22, 2022

(b) (4)

Your NDT Level III certification examination results are as follows:

Method	Exam Date	Result	
NDT Basic	9/7/2022	Pass	
UT Method	9/7/2022	Pass	

See the enclosed document Results and Certification to learn how your examination results affect (b) (4) ertifications.



			QUALITY VALIDATION (	QV) REPORT			
			Red Hill Bulk Fuel Storage Fa	cility Defuel			
Validation Firm	HDR Envi	ronmenta	, Operations and Construction,	, Inc.	Repair No.	242	
Address	9781 S. M	leridian B	vd., Suite 400, Englewood, CO	80112	Repair ID	EPRC.K.s	5
Contract No.	FA890315	D0007, E	.O. FA8903-19-F-0027		Report Date	22 JUN 2	023
QV Engineer	(b) (	6)			Sale		
			VALIDATION				
Source	P	DF Page N	Io, Facility Geograph	hic Area		Reference	
EXWC	NDAA Pag	ge 75	Tank Gallery	(b) (3	) (A)		
Repair Description	segment b	etween F Provide 1	tely [Sic] mainline bell connecti S 68 and PS 69, on both sides 0 If welded pup replacement in 6]	of the S	ource Contract Reference	N3943020 N394302	
Description of Contractor QC Method(s) Used	inspection		detail in CQCP. Pipe welds 10 ographic Testing.	19	Contractor QC ords Reviewed		d Daily
Description of QA Validation and Observations	4296/2. Vis material su JTF-RH sec JTF-RH QV daily repor	ually insp ibmittals. ondary Q/ visually in ts).	Assurance is documented by the ected completed installation; mat Reviewed NDE reports. A and 3rd Party QV completed. Spected repairs and reviewed concepted.	tched completed co	nstruction aga	inst design	and
Rework	Needed		Photo Record Attache	d Re	pair Work Vali	dated as Co	mplete
Yes	•	No	See Page 2.	•	Yes	0	No
oulkhead at Door 3. replaced firestopping	Crew butt v g material o	welded in on the bul	bell connection segment betwee two pup pieces to allow for insection. weld map/design detail include	ertion through the b			

### **QUALITY ASSURANCE VALIDATION REPORT**

### Red Hill Bulk Fuel Storage Facility Defuel



Uphill side of the Door 3 bulkhead penetration between PS 68 and 69; no existing photograph of bell connection available.



Downhill side of the Door 3 bulkhead penetration between PS 68 and 69; no existing photograph of bell connection available.

### **EMERGENT PIPELINE REPAIRS**

0				ROOT PASS									COVER PASS					
(A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WEIDER	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTO
pl	P	01/16/2023	(b) (6	01/16/2023	P	(b) (6)	01/16/2023	(b) (6)	01/16/2023	Р	01/16/2023	(b) (6)	-1		1 1	P	02 / 06 / 2023	(b) (
				ROOT PASS									COVER PASS					
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				ROOT PASS									COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT e/t	DATE	INCHEC
	SHOP WELD			-	- "				02/04/2022	- 20			· m		) 1	R1 P/F P	DATE 04/21/2022	(b)
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				ROOT PASS									COVER PASS					
	P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	SHOP WELD								02/04/2022	-						· Pi	04/21/2022	
																L.		
				ROOT PASS									COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPEC
2	P	01/20/2023	(b) (6)	01 / 20 / 2023	P	(b) (6)	01/20/2023		01/23/2023	р	01/23/2023	(b) (6)				P	02 / 06 / 2023	(b)
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				ROOT PASS					242				COVER PASS					
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T				ROOT PASS									COVER PASS					7
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2.0																		_

EPAIR ID				ROOT PASS			- 11	Repai	r 242				COVER PASS					
) (3) (A	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	_	DATE	VT P/F	DATE	INSPECTOR	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
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				ROOT PASS									COVER PASS					4
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				ROOT PASS									COVER PASS				1	
	FITUP	DATE		DATE	TV		DATE		DATE	VT	DATE		MT/PT	DATE	INSPECTOR	RT	DATE	INSPECTO
	P/F	02 / 02 / 2023		02 / 02 / 2023	P/F		02/02/2023		02/02/2023	P/F P	02/02/2023		P/F p	02/24/2023	(b) (6)	P/F		
										1	under NCN-001							
	12.3			ROOT PASS									COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE		RT P/F	DATE	INSPECT
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				ROOT PASS									COVER PASS				4 = 1	
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT/PT P/F	DATE		RT P/F	DATE	INSPECT
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	FITUP	17 200		ROOT PASS	VT		1		- Sec. 1	VT	T		COVER PASS MT / PT	ya fan	P 19	RT		
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	P	02 / 06 / 2023		02/06/2023	P		02 / 06 / 2023		02/06/2023	P	02 / 06 / 2023					N/A P	02/07/2023	(b) (6

RHEmergentPipelineRepairs N39430-20-D-2225-N3943021F4707

- REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANDON RAPPORESE FIRE BLANGET FREZOOSSISS, 2—INCH THICK, EXITENDED 12—INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STILL 440 RESTRANT ROOS. FIELD WESTEY UNENSIONS OF DRESSER COUPLING PRIOR TO ORDERING EINER STANDARD OF DRESSER COUPLING PRIOR TO ORDER THE STANDARD ORDER
- Components noted as temporary (identified with cross hatch) are for restraint of piphor while trans are out of service and will not be subject to inferme. Pressures. Label pring to indicate it is not for fuel.

- USE

  SPECIAL STATES OF THE STA

- TE-N MED DEMINATION

  1. IN ADDITION TO FINAL PADIOGRAPHIC EXAMINATION, TE-N WELOS IDENTRED S. THORRO CENTRE TE-N WELD'S MEDIORITION OF THE THORRO CENTRE THE WELD'S THE REDIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDINGE WITH ASILE 89.1.3 SECTION 344.7.

  2. IN-PROCESS EXAMINATION MIST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:

  2.1. JOHN PEPEPARATION. AND CLEMALNESS

  2.2. PREHIATING.
  2.3. IT-LP, JOHN CLEMANCE, AND INTERNAL ALIGNMENT PRIOR TO JOHNNIG.

  2.4. MARRIES SPECIFED BY JOHNING PROCEDURE INCLUDING

- TO JOHNIG.

  2.4. VARNELES SPECIFIED BY JOHNIG PROCEDURE INCLUDING HILER MATERIA, POSTION AND ELECTRODE.

  2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.

  2.6. SLAG REMOVAL AND WELD CONDITION.

  2.7. APPEARMEC OF THE RINHSHED JOHN.

  3. CLOSHE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND TOOM PROCESS TO APPEAR OF THE RINHSHED JOHN.

  1007 RENDOMERHE EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SPECION IA-82.

STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - LOWER PIPING FLE NO. G-2 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

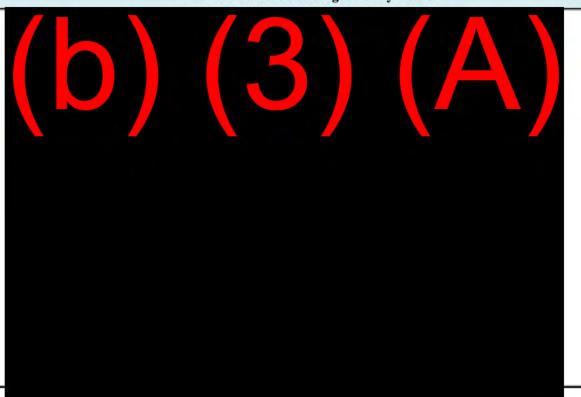
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			QUALITY VALIDATION (	QV) REPO	RT			
			Red Hill Bulk Fuel Storage Fac	ility Defuel				
Validation Firm	/h)	11	1			Repair No.	243	
Address	(U)	1-	,		- 17	- 7.71	EPRC.K.t	
Contract No.	FA890315	D0007, D	.O. FA8903-19-F-0027			Report	22 JUN 2	023
QV Engineer	(b) (d	3)				Date		
	`		VALIDATION					
Source	PI	OF Page N	o, Facility Geograph	ic Area	\ /2\ /^\	Location	Reference	
xwc	NDAA Pag	e 76	Tank Gallery	(0	) (3) (A)	V.		
Repair Description	segment a	t PS 75. I	approximately 96-inch length Replace 6-ft above to 2-ft below the corroded pipe saddle with	PS 75.	Source	ce Contract Reference	N3943020 N394302	
Description of Contractor QC Method(s) Used	inspection		detail in CQCP. Pipe welds 10 graphic Testing.	0%		ntractor QC s Reviewed	CQCP an Reports	d Daily
Description of QA Validation and Observations	4296/2. Vis material su JTF-RH seco JTF-RH QV	ually inspe bmittals. I ondary QA visually in	Assurance is documented by the ected completed installation; mat deviewed NDE reports. and 3rd Party QV completed. spected repairs and reviewed convernment. Date: 14 JUN 2023	ched comple	eted consti	ruction aga	inst design	and
Rework	Needed	ance by B	Photo Record Attached	i I	Repair	Work Vali	dated as Co	mplete
Yes	•	No	See Page 2.		•	Yes	0	No
omments contractor removed ipe cradle to replac or reference,	96-inch seç ce existing c	gment of porroded of	piping at PS 75; replacement by radle. NDE result table, NDE in	butt welded espection rep	d segmen oort, weld	t of new pi map/desig	ping. Insta gn detail in	lled new cluded

# **QUALITY ASSURANCE VALIDATION REPORT**

Red Hill Bulk Fuel Storage Facility Defuel





Repaired pipe cradle at Pipe Support 75.

### **EMERGENT PIPELINE REPAIRS**

(A)				ROOT PASS									COVER PASS					
W	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	(b) (6)	MT/PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTO
	P	01 / 26 / 2023	(b) (6)	01/26/2023	P	(b) (6)	01 / 26 / 2023	(b) (6)	01/26/2023	P	01/25/2029	(0) (0)				P	02 / 07 / 2023	(b) (
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	p	02 / 02 / 2023		02 / 02 / 2023	Þ		02 / 02 / 2023		02 / 02 / 2023	P	02/02/2023		р	02/24/2023	(b) (6)		-	
											under NCN-001							
	N. E			ROOT PASS									COVER PASS					
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										F1	under NCN-001							
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		_																

STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - LOWER PIPING G-2 REV. 1 PLATE: PEF BDR 03/18/2022

**CONSTRUCTION SUBMITTAL** 

### SHEET NOTES:

- REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANDON RAPPORESE FIRE BLANGET FREZOOSSISS, 2—INCH THICK, EXITENDED 12—INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STILL 440 RESTRANT ROOS. FIELD WESTEY UNENSIONS OF DRESSER COUPLING PRIOR TO ORDERING EINER STANDARD OF DRESSER COUPLING PRIOR TO ORDER THE STANDARD ORDER
- Components noted as temporary (identified with cross hatch) are for restraint of piphor while trans are out of service and will not be subject to inferme. Pressures. Label pring to indicate it is not for fuel.

- USE

  SPECIAL STATES OF THE STA

- TE-IN MELD DAMINATION

  1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS UDDITTIED AS THORSE CEMINIT TIE-IN WELD'S MAJE RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASIE B31.3 SECTION 344.7.

  1. IN-PROCESS EXAMINATION MIST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:

  2.1. JOHN PEPPRARION AND CLEANLESS

  2.2. PREHEATING.
  2.3. IT-IP-J. JOHN CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOHNING.

- TO JOHNIG.

  2.4. VARNELES SPECIFIED BY JOHNIG PROCEDURE INCLUDING HILER MATERIA, POSTION AND ELECTRODE.

  2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.

  2.6. SLAG REMOVAL AND WELD CONDITION.

  2.7. APPEARMEC OF THE RINHSHED JOHN.

  3. CLOSHE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND TOOM PROCESS TO APPEAR OF THE RINHSHED JOHN.

  1007 RENDOMERHE EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SPECION IA-82.

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# RADIOGRAPHIC INSPECTION REPORT

(b) (4)
0. No.: 23-034

port No.: (-52072)

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Date of Inspection

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