

Joint Task Force-Red Hill

Bi-Monthly Quality Validation Working Group Meeting



22 June 2023



BACKGROUND/DESCRIPTION

ENSURING A FREE AND OPEN INDO-PACIFIC

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



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
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	Evaluate the need for Dresser Couplings in the (b) (3) (A) [redacted] 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 (b) (3) (A) 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	(b) (3) (A)
10	Elevated pipe (JP-5, (b) (3) (A)) 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	(b) (3) (A)
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	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
18	Elevated pipe (b) (3) (A) 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	(b) (3) (A)
20	Missing pipe cradle on one side. Repair pipe cradle.	21 Jun 23	(b) (3) (A)
25	(b) (3) (A): JP-5 piping is unrestrained at the end of the main (b) (3) (A) 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 (b) (3) (A)	22 Jun 23	(b) (3) (A)
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	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
30	<p>Dresser coupling may not have capacity to withstand surge load like May 6 event. (b) (3) (A)</p> <p>See (b) (4) recommendations if laterals to even numbered tanks are disconnected.</p>	22 Jun 23	(b) (3) (A)
40	<p>F-24 pipeline is unsupported between supports, approximately (b) (3) (A)</p> <p>Install saddle or shim the pipe or pipe supports to uniformly support the pipe.</p>	21 Jun 23	
41	<p>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.</p>	21 Jun 23	
45	<p>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.</p>	15 Jun 23	



Quality Validation Report

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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 (b) (3) (A) 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	



Quality Validation Report

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NO.	Validation Complete	Date	Location
84	<p>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-(b) (3) (A). Notable corrosion was observed on LPD pipe adjacent to (b) (3) (A). Valve classification is unknown. Replace.</p>	21 Jun 23	(b) (3) (A)
85	<p>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.</p>	15 Jun 23	(b) (3) (A)
54	<p>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.</p>	21 Jun 23	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
55	There is a (b) (3) (A) [REDACTED] [REDACTED] 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	(b) (3) (A)
57	Valve flange for the (b) (3) (A) valves is missing a fastener. Install fastener.	21 Jun 23	(b) (3) (A)
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	(b) (3) (A)
92	The (b) (3) (A) [REDACTED] 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	(b) (3) (A)
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	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

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	(b) (3) (A)
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	(b) (3) (A)
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	(b) (3) (A)
236	Remove and replace the elevation and alignment change spool piece at (b) (3) (A). Spool is flanged and includes two rolled 45 elbows and straight segment. [18-TG-25]	22 Jun 23	(b) (3) (A)
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	(b) (3) (A)



Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
241	Remove the corroded mainline tee (b) (3) (A) [REDACTED] Replace mainline as-needed to install a branch connection. Rework cross-tunnel piping as-needed to connect the branch connection. Re-connect mainline to [REDACTED]-tunnel piping with 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 lf 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

ENSURING A FREE AND OPEN INDO-PACIFIC

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



Transition to Microsoft Teams

ENSURING A FREE AND OPEN INDO-PACIFIC

QUALITY VALIDATION (QV) REPORT			
Red Hill Bulk Fuel Storage Facility Defuel			
Validation Firm	(b) (4)		Repair No.
Address	(b) (4)		Repair ID
Contract No.	FA890315D0007, D.O. FA8903-18-F-0027		Report
QV Engineer	(b) (6)		
Source	PDF Page No.	Facility Geographic Area	Location Reference
Repair Description	Codes & Criteria:		Source Contract Reference
Description of Contractor QC Method(s) Used			Contractor QC Records Reviewed
Description of QA Validation and Observations	Final acceptance by government. Date:		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> Yes	<input checked="" type="radio"/> Yes <input type="radio"/> No
Comments			
CERTIFICATION			
I hereby certify that repair work validated in this report was personally substantiated and this report is true.		QV ENGINEER SIGNATURE	
		DATE	xx FEB 2023

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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	001
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4)
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	22 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)		RHL	Various
Repair Description	Performance of a surge analysis for the (b) (3) (A) 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. (cont. in comments)		Source Contract Reference N/A
Description of Contractor QC Method(s) Used	N/A - Effort was for an overall analysis of surge based on previously completed reports. There are no new contractor actions to QC.		Contractor QC Records Reviewed N/A
Description of QA Validation and Observations	N/A - Effort was for an overall analysis of surge pressures which did not have any new contractor actions to QA. Final acceptance by government. 31 May 23		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		N/A	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

(description cont.) "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."
 **** JTF-RH, in coordination with DOH and EPA, consolidated various surge analysis efforts completed by SGH, EEI, and Risktec to include assessments of the Red Hill facility systems as well as operational procedures for defueling. The consolidated findings and recommendations from this effort were provided to DOH and EPA on 31 May 23 via a response to DOH and EPA RFI's. The previously submitted JTF response summarizing the consolidated surge analysis effort can be referenced below. ****

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023



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:

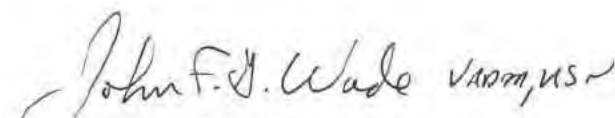
- References (a): (b) (4) Memorandum, January 17, 2023 (copy attached)
(b): JTF-RH's Responses to Additional EPA Comments on the Red Hill Bulk Fuel Storage Facility (RHBFSF) Consolidated Repair/Enhancement List, February 22, 2023 (copy attached)
(c): DOH Electronic Correspondence, April 14, 2023 (copy 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

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

JTF-RH, (b) (4) evaluated piping repairs and modifications to ensure safe operation. (b) (4) 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). The 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, (b) (4) 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, (b) (4) performed 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) issued 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 (b) (4) 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 (b) (4) Report Summary

Transfer Scenario	Model Case	Product	Location of Maximum Pressure	Maximum Theoretical Flow Rate (gpm / bph)
4	4e4	F24	(b) (3) (A)	
7	7e4	JP5		

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

(b) (3) (A)

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 (b) (4) 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. (b) (4) analyzed pipeline stress based on the improvements. In a Jan 2023 memorandum (b) (4) 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, (b) (4) again analyzed F24 pipeline stress based on system

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

Table 2 Facility Allowable Pressure Limitations

Product	Facility Limitation on Allowable Working Pressures		
	Maximum Allowable Working Pressure (Basic, psig)	Maximum Allowable Surge Pressure (Basic + Occasional, psig)	Location of Maximum Allowable Pressure Limitation
JP5	(b) (3) (A)		
F24			

3.3.(b) (4)

(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) via 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 (b) (4) report, 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

(b) (4) 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	(b) (3) (A)			
4e4	F24				

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) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	008	
Address	(b) (4)	Repair ID	(b) (4)	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	319	RH Tank Gallery	Various
Repair Description	Evaluate the need for Dresser Couplings in the 32" and 18" main distribution piping in Red Hill Tank Gallery between TK 114 JP-5 Tank and TK 116 F-76 Tank, shown on Drawing M-101. If they can be removed safely, remove the Dresser Couplings. (See Comments)		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Pipe welds 100% inspection via Radiographic Testing.		Contractor QC Records Reviewed CQCP and Daily Reports.
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Repair Description Cont.: "JP-5 Emergent Pipeline Repairs were underway at the time of the PHA and will include eliminating old Dresser Coupling on 18" 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." Contractor cold cut existing compression sleeve pipe coupling assembly; welded pup segment installed. Overall piping segment successfully hydrostatically tested under a separate task.
NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Mainline pipe compression sleeve coupling removed.



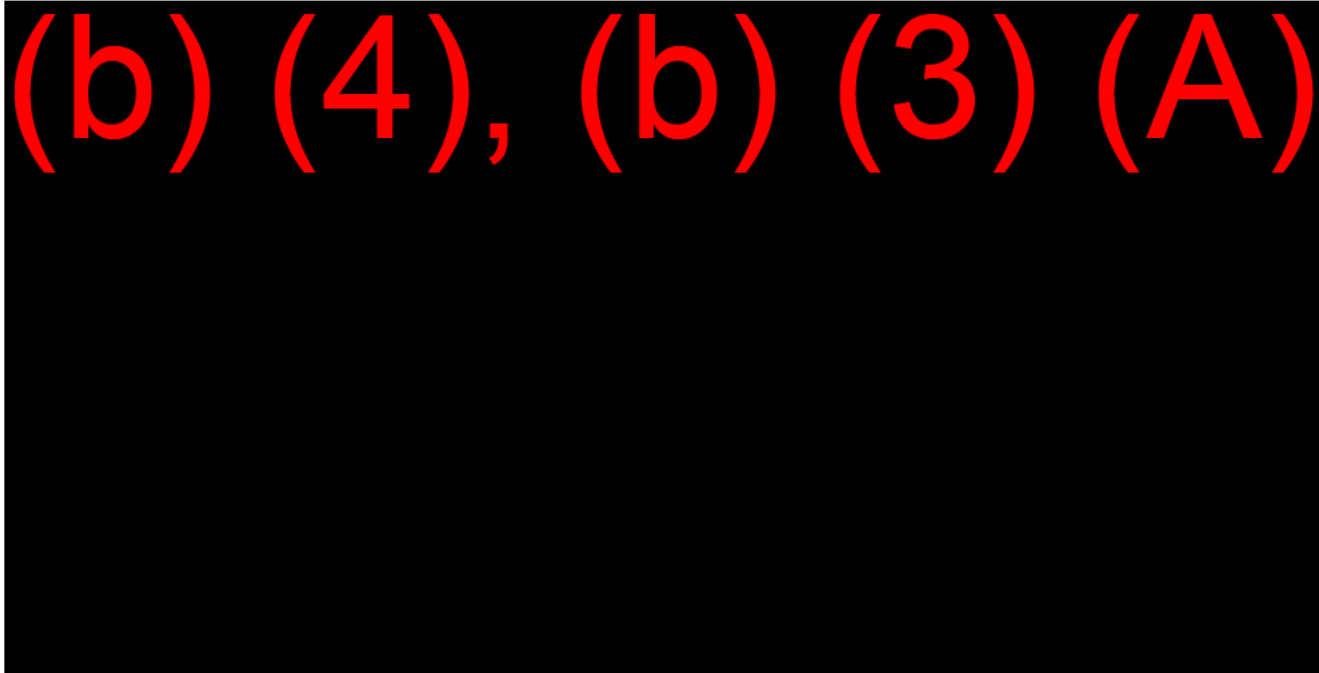
Welded pup segment installed in place of pipe compression sleeve coupling.

SHEET NOTES:

1. REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANNON RAPID-RISE FIRE BLANKET FE2000SSSSS, 2-INCH THICK, EXTENDED 12-INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STYLE 440 RESTRAINT RODS. FIELD VERIFY DIMENSIONS OF DRESSER COUPLING PRIOR TO ORDERING FIRE BLANKET.
2. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
3. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
4. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
5. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINESS
 - 2.2. PREHEATING
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE.
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.



Last modified by:

Drawing File: \\P4650\Draw\Current\Drawn\G-2.dwg

Mar 18, 2022 - 5:49pm

P4650

9845	CONTRACT N39430-15-D-2225 TO N3943021F4207			
(b) (4)	STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - LOWER PIPING			
	FILE NO. G-2			REV. REV. 1
	DRN PEF	CHK BDR	DATE 03/18/2022	PLATE

CONSTRUCTION SUBMITTAL

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)





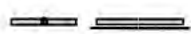
W. O. No.: 23-034

Report No.: GS022423

Date: 2-24-2023

Page 1 of 2

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3
PROJECT Redhill Emergent ^{Pipeline}	DWG. NO.	PROCEDURE NDT-666 REV C	ACC. PROC. B31.3 REV 2015
RT SOURCE IR192	FILM AGFA D5	PB SCREENS	PENS: ASTM
(b) (3) (A)	TYPE 1B	SHIMS MAT'L/THKNS	MATERIAL 95
	MATERIAL	TECHNIQUE USED 3	THICKNE (b) (3) (A)
	LOCATION F	EXPOSURE TIME 4 min.	JOINT T
	PROCESSING	<input checked="" type="checkbox"/> MANUAL	PIPE DIA

- Single Wall

Panoramic
- Single Wall

Offset
- Double Wall

- Double Wall 0/90

Elliptical
- Plate

- Other

WELD #	VIEW #	GEOMETRIC UNSHARPNESS 'UG'	ACCEPT / REJECT										REMARKS	
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back		F.I.
GS	(b) (3) (A)	.020	X											(b) (3) (A)
		/	X											
GS	(b) (3) (A)	.020	X											(b) (3) (A)
		/	X											

(b) (6)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	010	
Address	(b) (4)	Repair ID	(b) (4)	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	389	Tank Gallery	(b) (3) (A)
Repair Description	Elevated pipe (JP-5, 18") 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.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 662
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Refer to SGH Memorandum dated 30 NOV 2022. "The repairs below supersede those for lateral restraint in our April 2022 report. The updated SGH's recommended repairs for pipe supports of the JP-5 fuel line **(b) (3) (A)** is to provide U-Bolts as shown in Figure 2 for the following six pipe support locations: PS-18, PS-19, PS-20, PS-45, PS-74, PS-85. Note that PS-45, PS-74, and PS-85 are not listed in SGH Item No. LAT-20, but they are shown in Appendix A.3 of the SGH Final Assessment Report." U-Bolt repairs were performed at the listed locations with the exception of PS-74. Due to space constraints, U-bolt installation was not feasible. Instead a horizontal member was attached to prevent "escape" of the pipe from the saddle. Reference 08 December email communication with SGH.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 18.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 19.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 20.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 45.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 74.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 85.



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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	011
Address	(b) (4)	Repair ID	(b) (4)
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	389	Tank Gallery	(b) (3) (A)
Repair Description	Elevated pipe (b) (3) (A) has limited or no lateral restraint. Provide lateral stops as per (b) (4) retrofit concept drawings.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 662
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports
Description of QA Validation and Observations	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		

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

Comments
 Refer to SGH Memorandum dated 30 NOV 2022. "Provide U-Bolts, as shown in Figure 2, at the following nine pipe support locations: PS-53, PS-55, PS-60, PS-64, PS-71, PS-74, PS-82, PS-85, PS-88." U-bolt repairs were identified at PS-23, PS-25, PS-26, PS-27, PS-34, PS-36, PS-42, PS-45 and PS-47 in the event that the blind flange was not installed at Tank 7/8; while the understanding is that the blind will be in place, these supports were repaired regardless. U-Bolt repairs were performed at the listed locations with the exception of PS-25 and PS-26. Due to space constraints, U-bolt installation was not feasible. Instead a horizontal member was attached to prevent "escape" of the pipe from the saddle. Reference 08 December email communication with SGH.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 23.



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

QUALITY ASSURANCE VALIDATION REPORT

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.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 27.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 34.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 36.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 42.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 45.



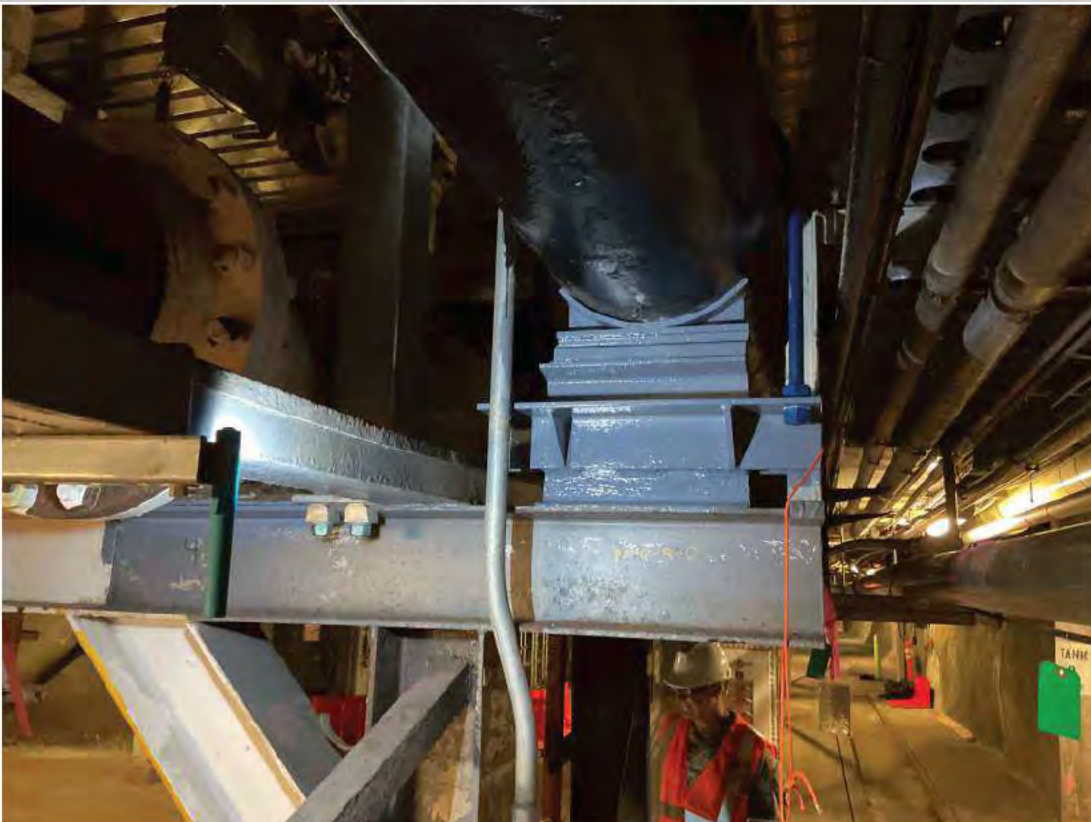
New welded bracket and U-bolt restraints at Pipe Support 45.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 47.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 53.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 55.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 60.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 64.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 71.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 74.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 82.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 85.



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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	018	
Address	(b) (4)	Repair ID	(b) (4)	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	390	Tank Gallery	(b) (3) (A)
Repair Description	"Elevated pipe ^{(b) (3) (A)} is not supported, pipe is not fully bearing on cradle. Provide lateral stops and reset pipe (b) (3) (A), (b) (4)		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in CQCP.		Contractor QC Records Reviewed CQCP and Daily Reports.
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor welded stack of shims to match height of piping, welded existing cradle into position and reseated the pipe into its cradle **(b) (4)** Memo referenced above is dated 30 NOV 2022.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	
	DATE 22 JUN 2023	

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	019
Address	(b) (4)	Repair ID	(b) (4)
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	390	Tank Gallery	(b) (3) (A)
Repair Description	Elevated pipe (b) (3) (A) is not supported, cradle is missing. Provide missing cradle and lateral stops.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 662
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Refer to SGH Memorandum dated 30 NOV 2022. "The repairs below supersede those for lateral restraint in our April 2022 report. The updated SGH's recommended repairs for pipe supports of the JP-5 fuel line **(b) (3) (A)** is to provide U-Bolts as shown in Figure 2 for the following six pipe support locations; PS-18, PS-19, PS-20, PS-45, PS-74, PS-85. Note that PS-45, PS-74, and PS-85 are not listed in SGH Item No. LAT-20, but they are shown in Appendix A.3 of the SGH Final Assessment Report." U-Bolt repairs were performed at the listed locations with the exception of PS-74. Due to space constraints, U-bolt installation was not feasible. Instead a horizontal member was attached to prevent "escape" of the pipe from the saddle. Reference 08 December email communication with SGH.

CERTIFICATION

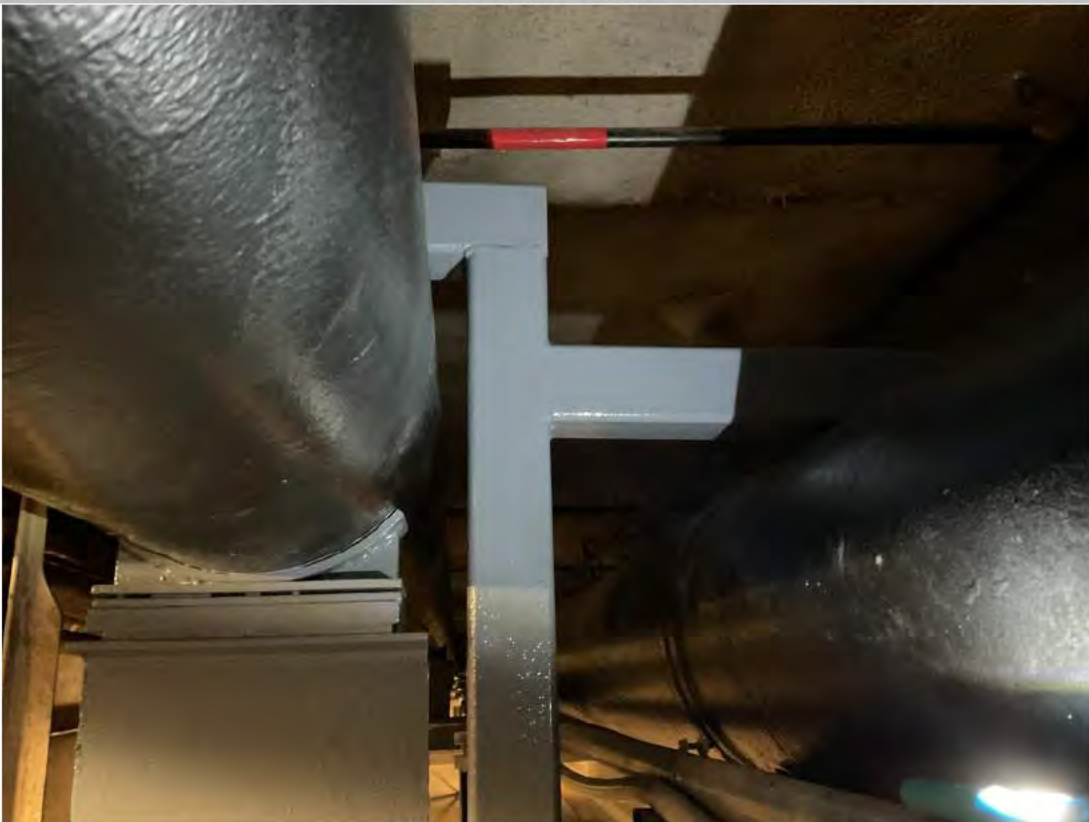
I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing Pipe Support 74.



Installed missing cradle and lateral stops at Pipe Support 74.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	020	
Address	(b) (4)	Repair ID	(b) (4)	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	390	Tank Gallery	(b) (3) (A)
Repair Description	Missing pipe cradle on one side. Repair pipe cradle.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 662
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Welded replacement cradle at **(b) (3) (A)** Coating repair performed.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Previous condition at Pipe Support 6.



Replaced missing cradle (right) at Pipe Support 6.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	025	
Address	(b) (4)	Repair ID	(b) (4)	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUNE 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4) NDAA	(b) (4) / NDAA 54	Tank Gallery	Various
Repair Description	JP-5 piping is unrestrained at the end of the main (b) (4) header. Pipeline is free to displace in the event of a surge and could cause overstress. (continued in comments below).		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Final acceptance by government. Date: 23 MAY 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Pages 2-3.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Repair Description cont. "Laterally unrestrained piping at end of header near Tanks 19-20 and lateral at Tank 19. Similar condition likely exists at Tanks 5, 13, 14, 17, 18, and 20. Provide axial restraint, as needed, per SGH 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 at PS-1."
NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUNE 2023

(b) (3) (A)

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

REPAIR ID	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	INSPECTOR	
(b) (3) (A)	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) (6)	
	ROOT PASS							COVER PASS											
	FILLET WELD																		
	ROOT PASS							COVER PASS											
	P	05 / 05 / 2022	(b) (6)	05 / 05 / 2022	P	(b) (6)	05 / 05 / 2022										P	05 / 16 / 2022	
	ROOT PASS							COVER PASS											
	FILLET WELD																		
	ROOT PASS							COVER PASS											
	P	05 / 10 / 2022	(b) (6)	05 / 10 / 2022	P	(b) (6)	05 / 11 / 2022										P	05 / 16 / 2022	
	ROOT PASS							COVER PASS											
P	05 / 10 / 2022		05 / 10 / 2022	P		05 / 11 / 2022										P	05 / 16 / 2022		
ROOT PASS							COVER PASS												
P	05 / 17 / 2022		05 / 17 / 2022	P		05 / 18 / 2022										P	05 / 24 / 2022		

Repair 25



SHEET NOTES:

1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
2. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
3. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
4. ALL WELDS, FOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINESS
 - 2.2. PREHEATING
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE.
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.

9845	CONTRACT N39430-15-D-2225 TO N3943021F4207			
(b) (3) (A)	STANDARD DETAIL			
	RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - UPPER PIPING			
	FILE NO. G-1	REV. REV. 1		
DRN PEF	CHK BDR	DATE 03/18/2022	PLATE	

CONSTRUCTION SUBMITTAL

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No.: GSS1622

Date: 5/16/22


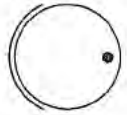


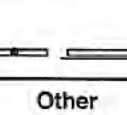


Page 1 of 3

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3
PROJECT (b) (4)	DWG. NO.	PROCEDURE REV	ACC. PROC. B31.3 REV 2015
RT SOURCE (b) (4)	FILM ALFAS	PB SCREENS	
PENS: ASTM		SHIMS MAT'L/THKNS	MATERIAL SS
TYPE 1B		TECHNIQUE USED 3	THICK (b) (3) (A)
MATERIAL SS		EXPOSURE TIME 5:00	JOINT
LOCATION F		PROCESSING <input checked="" type="checkbox"/> MANUAL <input type="checkbox"/> AUTOMATIC	PIPE D

(b) (3) (A)

(b) (3) (A)

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	ACCEPT REJECT											REMARKS
			Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	T. I.	Film Artifact		
(b) (3) (A)		0.20	X	/										(b) (3) (A)
(b) (3) (A)		0.20	X	/				/						(b) (3) (A)
(b) (3) (A)		0.20	X						/					(b) (3) (A)
(b) (3) (A)		0.20	X						/					(b) (3) (A)
(b) (3) (A)		0.20	X						/					(b) (3) (A)
(b) (3) (A)		0.20	X	/										(b) (3) (A)

- 1. Single Wall 
- Panoramic 
- Single Wall 
- Offset 
- 3. Double Wall 
- 4. Double Wall 0/90 
- Elliptical 
- 5. Plate
- 6. Other

(b) (6)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4) V. O. No.: 22-109
Report No.: GS051622
Page 2 of 3

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	T. I.	Film Artifact	REMARKS	
(b) (3) (A)	/	.020	X						/							
			X							/						
			X	/												
	/	.020	X													
			X													
			X													
	/	.020	X						/							
			X													
			X													
	/	.020	X													
			X													
			X													
		X														

(b) (6)

II
5-16-2022
Date of Inspection

NT-TC-1A Level

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	028
Address	(b) (4)	Repair ID	(b) (4)
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	(b) (4)	Tank Gallery	(b) (3) (A)
Repair Description	Dresser coupling may not have capacity to withstand surge load similar to May 6 event. See (b) (4) recommendations if laterals to even numbered tanks are disconnected.		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in CQCP. Visual inspection was performed on the structural welds IAW AWS D1.1 code. Dresser coupling lug fillet welds inspected by magnetic particle testing. Pipe welds 100% inspection via Radiographic Testing.		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/>
<input type="radio"/>	Yes	<input type="radio"/>	No

Comments

Contractor replaced Dresser coupling assemble, including replacement of Dresser coupling tension rod lugs, calcium silicate insulation, and Dresser coupling blanket. Fabricated and installed deadleg spool to Tank 18
NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Previous condition: Dresser coupling removed at Tank 18.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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



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

EMERGENT PIPELINE REPAIRS

REPAIR ID	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	INSPECTOR	
(b) (3) (A)	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) (6)	
	ROOT PASS							COVER PASS											
	FILLET WELD								05 / 06 / 2022	P	05 / 09 / 2022								
									05 / 10 / 2022	P	05 / 10 / 2022								
	ROOT PASS							COVER PASS											
	P	05 / 05 / 2022	(b) (6)	05 / 05 / 2022	P	(b) (6)	05 / 05 / 2022		05 / 05 / 2022	P	05 / 05 / 2022	(b) (6)				P	05 / 16 / 2022	(b) (6)	
	ROOT PASS							COVER PASS											
	FILLET WELD								05 / 06 / 2022	P	05 / 09 / 2022	(b) (6)							
									05 / 10 / 2022	P	05 / 10 / 2022								
	ROOT PASS							COVER PASS											
P	05 / 10 / 2022	(b) (6)	05 / 10 / 2022	P	(b) (6)	05 / 11 / 2022	(b) (6)	05 / 11 / 2022	P	05 / 11 / 2022					P	05 / 16 / 2022	(b) (6)		
ROOT PASS							COVER PASS												
P	05 / 10 / 2022		05 / 10 / 2022	P	(b) (6)	05 / 11 / 2022		05 / 11 / 2022	P	05 / 11 / 2022					P	05 / 16 / 2022			
ROOT PASS							COVER PASS												
P	05 / 17 / 2022		05 / 17 / 2022	P	(b) (6)	05 / 18 / 2022		05 / 18 / 2022	P	05 / 19 / 2022					P	05 / 24 / 2022			

r 28

EMERGENT PIPELINE REPAIRS

REPAIR ID	ROOT PASS							Repair 28										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	INSPECTOR				
(b) (3) (A)	P	05 / 19 / 2022	(b) (6)	05 / 19 / 2022	P	(b) (6)	05 / 19 / 2022	(b) (6)	05 / 19 / 2022	P	05 / 19 / 2022	(b) (6)				P	05 / 24 / 2022	(b) (6)				
	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	INSPECTOR				
	P	05 / 20 / 2022	(b) (6)	05 / 20 / 2022	P	(b) (6)	05 / 20 / 2022	(b) (6)	05 / 20 / 2022	P	05 / 23 / 2022	(b) (6)				P	05 / 24 / 2022	(b) (6)				
	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	INSPECTOR				
								SHOP WELD								P	05 / 24 / 2022	(b) (6)				
	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	INSPECTOR				
	FILLET WELD							(b) (6)	05 / 24 / 2022	P	05 / 25 / 2022	(b) (6)	P	05 / 25 / 2022	(b) (6)							
	ROOT PASS							COVER PASS														
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	DATE	VT P/F	DATE	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR				
	FILLET WELD							05 / 24 / 2022	P	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	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR				
	FILLET WELD							05 / 24 / 2022	P	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	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR				
	FILLET WELD							05 / 24 / 2022	P	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	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR				
	FILLET WELD							05 / 24 / 2022	P	05 / 25 / 2022			P	05 / 25 / 2022								



SHEET NOTES:

1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
2. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
3. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
4. ALL WELDS FOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINESS
 - 2.2. PREHEATING
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE.
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.

9845	CONTRACT N39430-15-D-2225 TO N3943021F4207			
(b) (3) (A)	STANDARD DETAIL			
	RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - UPPER PIPING			
	FILE NO. G-1			REV. REV. 1
DRN PEF	CHK BDR	DATE 03/18/2022	PLATE	

CONSTRUCTION SUBMITTAL

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


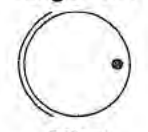
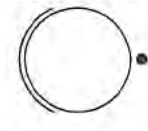


(b) (4)

(b) (4)

W. O. No.: 22-109
Report No.: GS52422
Date: 5-24-22
Page 1 of 2

RADIOGRAPHIC INSPECTION REPORT

CUSTOMER	(b) (4)	CUST JOB#		SPECIFICATION	ASME V	ACCEPTANCE	ASME B31.3
PROJECT	(D) (3) (A)	DWG. NO.		PROCEDURE	NDT.006 REV C	ACC. PROC.	B31.3 REV 2015
RT SOURCE	TR192	FILM	AGFA D5	PB SCREENS		MATERIAL	(b) (3) (A)
SC	(b) (3) (A)	TYPE	B	TECHNIQUE USED	3	THICK	
FO	(b) (3) (A)	MATERIAL	SS	EXPOSURE TIME	5:50	JOINT	
SP	(b) (3) (A)	LOCATION	F	PROCESSING	<input checked="" type="checkbox"/> MANUAL <input type="checkbox"/> AUTOMATIC	PIPE D	

1. Single Wall

Panoramic
2. Single Wall

Offset
3. Double Wall

4. Double Wall 0/90

Elliptical
5. Plate

6. Other

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	DEFECTS											REMARKS		
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Spick Back	T.I.		Film Artifact	
(b) (3) (A)	(b) (3) (A)	X			/											
(b) (3) (A)	(b) (3) (A)	X		/	/											
(b) (3) (A)	(b) (3) (A)	X													/	
(b) (3) (A)	(b) (3) (A)	X														
(b) (3) (A)	(b) (3) (A)	X														
(b) (3) (A)	(b) (3) (A)	X														
(b) (3) (A)	(b) (3) (A)	X														
(b) (3) (A)	(b) (3) (A)	X														

(b) (6)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No.: GS52/22

Page 2 of 2

WELD #	VIEW #	GEOMETRIC UNSHARPNESS UG*	DEFECTS										REMARKS	
			ACCEPT	REJECT	Porosity	slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Slick Back		T.I.
(b) (3) (A)	(A)	X						/						(b) (3) (A)
		X	/											
		X					/							
		X					/							
		X					/							
		X	/											

(b) (6)

II

5/24/22

SNT-TC-1A Level

Date of Inspection

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	030	
Address		Repair ID	(b) (4)	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)		Tank Gallery	Tanks 2, 4, 6, 8, 10, 12, 14, 16
Repair Description	Dresser coupling may not have capacity to withstand surge load similar to May 6 event. (b) (3) (A)		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Visual inspection was performed on the structural welds IAW AWS D1.1 code.		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 21 MAR 2023		

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

Comments
 Repair Description cont. "See (b) (4) recommendations if laterals to even numbered tanks are disconnected."
 (b) (3) (A), (b) (4)
 (b) (4) site visit and concurrence 17 January 2023 in Memorandum 006.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

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.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	040	
Address	(b) (4)	Repair ID	F24.010	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference					
NDAAs	40	Tank Gallery	(b) (3) (A)					
Repair Description	F-24 pipeline is unsupported between supports, approximately 58 feet. Install saddle or shim the pipe or pipe supports to uniformly support the pipe.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 662					
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports					
Description of QA Validation and Observations	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							
Rework Needed		Photo Record Attached	Repair Work Validated as Complete					
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

Comments

Saddle repairs, shim installation and repositioning has returned the line resting on supports.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Previous condition at Pipe Support 6.



Replaced missing cradle (right) at Pipe Support 6.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Re-seated and shimmed line at PS-80.



Re-seated and shimmed line at PS-81.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Re-seated and shimmed line at PS-82.



Re-seated and shimmed line at PS-84.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Re-seated and shimmed line at PS-85.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	041	
Address	(b) (4)	Repair ID	F24.011	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	40	Tank Gallery	(b) (3) (A)
Repair Description	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.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 662
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.		Contractor QC Records Reviewed QCP and Daily Reports
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Saddle repairs, shim installation and repositioning has returned the line resting on supports.

CERTIFICATION

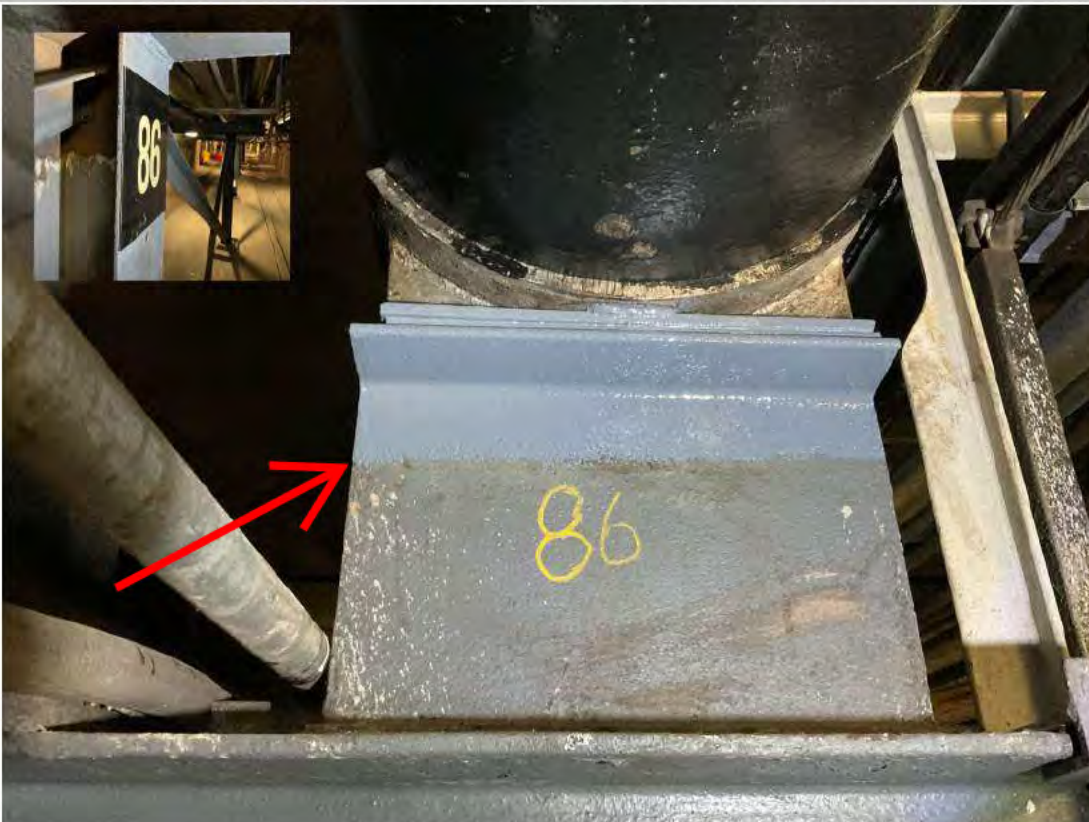
I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE DATE	(b) (6) 21 JUN 2023
--	---	-----------------------------------

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Representative photo of existing conditions within Pipe Support range.



Re-seated and shimmed line at PS-86.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Re-seated and shimmed line at PS-87.



Re-seated and shimmed line at PS-88.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Re-seated and shimmed line at PS-89.



Re-seated and shimmed line at PS-90.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Re-seated and shimmed line at PS-91.



Re-seated and shimmed line at PS-92.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	045	
Address	(b) (4)	Repair ID	F24.020	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	16 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDA	41	(b) (3) (A)	
Repair Description	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. (Repair Description continues in Comments below)		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 652
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Visual Examination of threaded component assembly.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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: 30 MAY 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Repair Description cont.
 "Valve classifications are unknown. Disassemble threaded connections, retape, and reassemble to prevent future weeps.
(b) (3) (A)
(b) (3) (A) valve threaded connection assemblies were installed and visually inspected in accordance with ASME.
 During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	16 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing threaded high point vent assembly at UGPH bulkhead.



Threaded connection repairs.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	046
Address	(b) (4)	Repair ID	F24.021
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	16 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDA	41	(b) (3) (A)	
Repair Description	(b) (3) (A) (Repair Description continues in Comments below)		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 652
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Visual Examination of threaded component assembly.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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: 30 MAY 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments
 Repair Description cont
(b) (3) (A)
(b) (3) (A) threaded connection assemblies were installed and visually inspected in accordance with ASME. During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	16 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

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 Facility Defuel

Validation Firm	(b) (4)	Repair No.	047	
Address	(b) (4)	Repair ID	F24.023	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	16 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	42	(b) (3) (A)	
Repair Description	The Eng (b) (3) (A) ed with the valve flange. Replace fasteners that are not fully engaged.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 652
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Visual Examination of threaded component assembly.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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: 30 MAY 2023		

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

Comments
Threaded connections **(b) (3) (A)** were replaced and visually inspected in accordance with ASME. During repacking, flange will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	16 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing fasteners at 16-inch flange not properly sized.



Fasteners replaced on both sides of flange.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	048	
Address	(b) (4)	Repair ID	F24.025	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	16 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	42	(b) (3) (A)	
Repair Description	(b) (3) (A) 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 47QSHA18D000Y W912DY21F0025 Service Order 652
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Visual Examination of threaded component assembly.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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: 30 MAY 2023		

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

Comments

Repair Description cont.
 "Disassemble threaded connections, rotate, and reassemble to prevent future weeps at the high point vent between
(b) (3) (A)
 All new threaded connections were visually inspected and will be monitored during repacking for weeps.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	16 JUN 2023

(b) (3) (A)

(b) (3) (A)

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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



High point vent assembly replaced at PS 584.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Replaced threaded plug at PS 650.



Replaced 3/4-inch threaded assembly at PS 205

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	084
Address	(b) (4)	Repair ID	JP5.026
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	50	(b) (3) (A)	
Repair Description	(b) (3) (A) (Repair Description continued in Comments below)		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 652
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Visual Examination of threaded component assembly.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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: 30 MAY 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Repair Description cont.
 "Moderate corrosion was observed on low point drain piping adjacent to PS-690. Notable corrosion was observed on LPD pipe adjacent to isolation valve #0156. Valve classification is unknown. Replace."
 Low point drain assemblies were installed and visually inspected in accordance with ASME. During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	16 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing low point drain assemblies in need of service.



Replacement low point drain assemblies.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	085	
Address	(b) (4)	Repair ID	JP5.032	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	16 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	50	(b) (3) (A)	Throughout (PS locations in Comments below)
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 47QSHA18D000Y W912DY21F0025 Service Order 652
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Visual Examination of threaded component assembly.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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: 30 MAY 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

(Repair Description cont.) "Disassemble threaded connections, retape, and reassemble to prevent future weeps at the high point vent 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."
 (Location Reference cont.) "PS 205-206, 206-207, 215-216, 276-277, 277-278, 298-299 (weeping), 300-301, 311-312, 473-474, 595-596 (weeping), 597-598, 650-651."
 New valve assemblies and plugs visually inspected in accordance with ASME. Plugs at PS 301 & 312 are welded, and were left in place per Risktec & EXWC recommendations. All locations will be monitored during repacking.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	16 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

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.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Threaded assembly replaced at PS 205.



Threaded assembly replaced at PS 206.

(b) (3) (A)

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Threaded assembly replaced at PS 277.



Seal welded assembly at PS 312; no repair performed.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Threaded assembly replaced at PS 474.



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

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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



Threaded plug replaced at PS 597.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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

IN REPLY REFER TO:
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).

(b) (6)

Subj: JOINT TASK FORCE RED HILL CONCURRENCE

Harbor Tunnel Work Scope - (b) (4) Recommendations

Project: Harbor Tunnel Work Scope - (b) (4) Recommendations
(b) (4), (b) (6)

Specialist

(b) (4) 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
Repair #48 F24.025	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.
	1 1/2" 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 1/2" 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 1/2" 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.
Repair #85 JP5.032	1" Threaded Plug (top of piping)	PS. 597/598	(b) (3) (A) Dry/ no active corrosion.	Plug was replaced.
	1/2" 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.
	1/2" 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.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	054	
Address	(b) (4)	Repair ID	F24.041	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDA	43	(b) (3) (A)	
Repair Description	(b) (3) (A) a threaded pipe plug. Provide threaded pipe plug to prevent accidental discharge of product from high point vent.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		

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

Comments
Threaded plug installed with fuel-resistant thread sealant.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing condition (b) (3) (A) line unplugged



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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	055	
Address	(b) (4)	Repair ID	F24.042	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDA	43	(b) (3) (A)	
Repair Description	(b) (3) (A) ed valve mounted on the side of 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.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP. Visually inspected threaded connection.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		

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

Comments
 Installed threaded plug with fuel resistant sealant on remnant pipeline nipple. During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing condition: no plug/cap on pipeline nipple.



Installed threaded cap on pipeline nipple to prevent accidental discharge.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	056	
Address	(b) (4)	Repair ID	F24.043	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	44	Underground Pump House	Various
Repair Description	There was noticeable fuel drips and weeps coming from pressure relieving devices on the valve above the grating. (b) (3) (A) Service valves.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		

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

Comments

Contractor replaced threaded plug and applied fuel-resistant sealant to threads to the bottom bung of the basket strainer **(b) (3) (A)**

(b) (3) (A) Contractor replaced gaskets and hardware **(b) (3) (A)**

(b) (3) (A)

During repacking, connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

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) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	057	
Address	(b) (4)	Repair ID	F24.045	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference				
NDAAs	44	(b) (3) (A)					
Repair Description	Valve flange for the (b) (3) (A) valves is missing a fastener. Install fastener.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653				
Description of Contractor QC Method(s) Used	Methods outlined in QCP. Visually inspected bolted connection.		Contractor QC Records Reviewed QCP and Daily Reports.				
Description of QA Validation and Observations	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						
Rework Needed		Photo Record Attached	Repair Work Validated as Complete				
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No	<input checked="" type="radio"/>	Yes	<input type="radio"/>	No

Comments

Contractor replaced missing fastener on flange with stud and nuts. During repacking, connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	091	
Address	(b) (4)	Repair ID	JP5.049	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	52	Underground Pumphouse	Various
Repair Description	There was noticeable fuel drips and weeps coming from pressure relieving devices on the valve above the grating. (b) (3) (A) devices). Service valves.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	QA methods outlined in QASP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repair & reviewed contractor QC documentation. During repacking, connections will be monitored for weeping. Final acceptance by government. Date: 01 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2-3.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

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

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.

QV ENGINEER SIGNATURE

(b) (6)

DATE

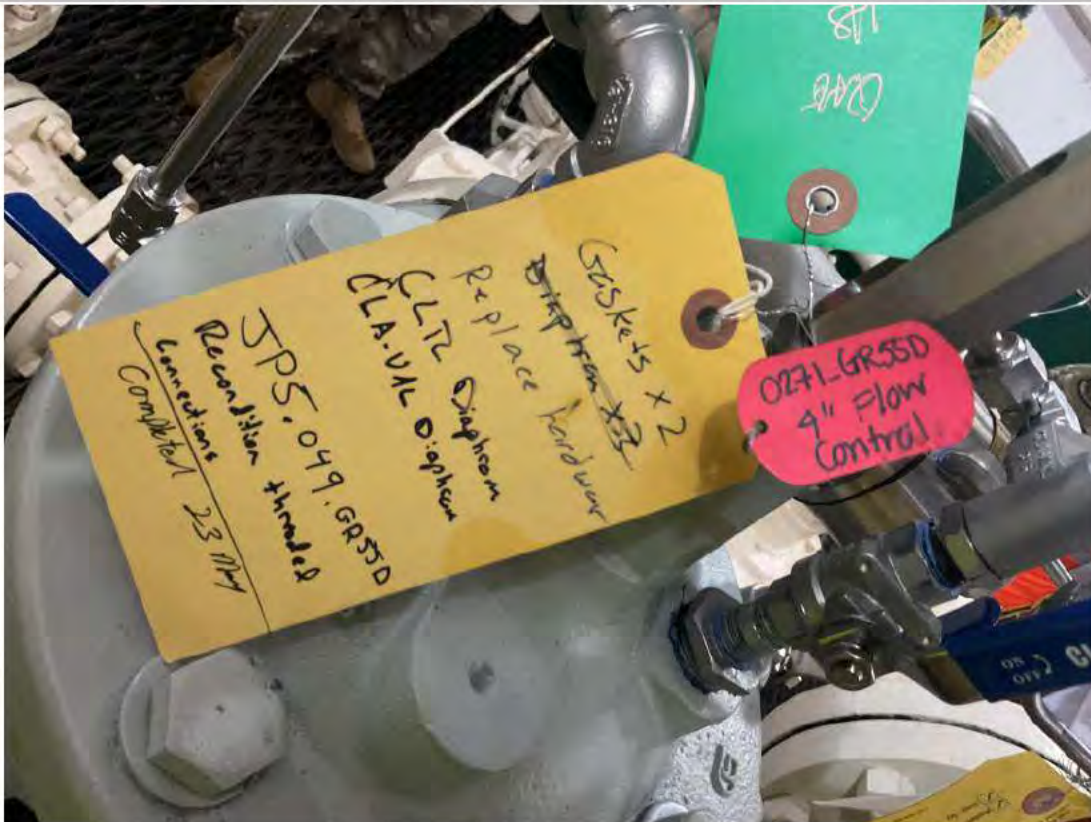
21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	092	
Address	(b) (4)	Repair ID	JP5.050	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	52	Underground Pumphouse	(b) (3) (A)
Repair Description	(b) (3) (A)		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP. Visual examination of threaded components.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		

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

Comments

Repair Description Cont.: "Service or replace valve (b) (3) (A)

Contractor replaced (b) (3) (A) valves on both sides of the JP-5 header with ball valves to eliminate weeping. During the course of normal operation, these valves are closed. During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

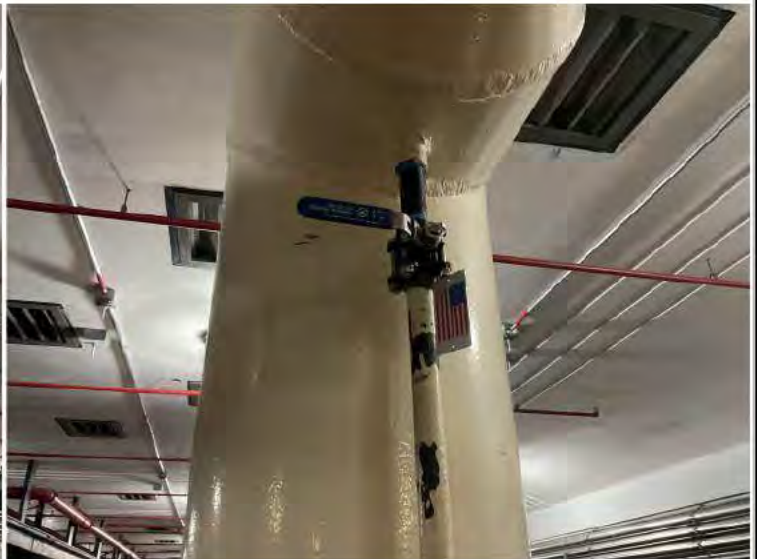
I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

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) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	098	
Address	(b) (4)	Repair ID	F76.069	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	61	Underground Pumphouse	Various
Repair Description	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.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 649
Description of Contractor QC Method(s) Used	Methods outlined in QASP. Visual examination of outlet cover installation, tagging each repair.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 01 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

At various locations below the Underground Pumphouse mezzanine, Contractor installed various outlet covers to seal any exposed junction boxes.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Condulet GUA Cover installation (typical) with QA tags.



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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	099	
Address	(b) (4)	Repair ID	F76.070	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	62	Underground Pumphouse	Various
Repair Description	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.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 649
Description of Contractor QC Method(s) Used	Methods outlined in QASP. Visual examination of threaded cap installation, tagging each repair.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 01 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

At various locations below the Underground Pumphouse mezzanine, Contractor installed threaded round cast iron caps to seal any exposed conduit stubs penetrating the pumphouse floor.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (7)(A)
	DATE	22 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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



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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	106	
Address	(b) (4)	Repair ID	F76.079	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	62	(b) (3) (A)	
Repair Description	(b) (3) (A) is missing wheel nut on valve stem. Install new wheel nut.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor installed and tightened handwheel nut on gate valve stem.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.

QV ENGINEER SIGNATURE

(b) (6)

DATE

21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	108	
Address	(b) (4)	Repair ID	F76.081	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	21 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAAs	62	Underground Pumphouse	Various
Repair Description	There was noticeable fuel drips and weeps coming from (b) (3) (A) weeping devices on the valve above the grating. (weeping devices). Service valves.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor replaced gasket and hardware on **(b) (3) (A)** on the pressure relief assembly. Contractor replaced threaded plug on bottom of basket strainer; applied fuel-resistant thread sealant. Contractor serviced valve # GR46E, GR46F, GR46G, GR46H, GR16E, GR16F, GR16G, GR16H by replacing hardware, reconditioning all threaded connections and sealed with fuel-resistant thread sealant, and changing gaskets.
During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Caption



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

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	110
Address	(b) (4)	Repair ID	F76.088
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	21 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDA	63	(b) (3) (A)	
Repair Description	(b) (3) (A) Valve classification is unknown. Install plugs.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 653
Description of Contractor QC Method(s) Used	Methods outlined in QCP. Visual inspection of threaded components.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	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		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
<input checked="" type="radio"/>	No	See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments
(b) (3) (A)
 During repacking, threaded connections will be monitored for weeping.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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 (b) (3) (A) nipple on FOR line at Surge Tank 3.

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Existing condition (b) (3) (A) ball valve on FOR line without plug at Surge Tank 4.



New threaded plug installed on (b) (3) (A) nipple on FOR line at Surge Tank 4.

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	236
Address	(b) (4)	Repair ID	See Comments
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	22 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NAVFAC EXWC	NDAAs Page 53 and 74	Tank Gallery	(b) (3) (A)
Repair Description	Remove and replace the elevation and alignment change spool piece at PS 20. Spool is flanged and includes two rolled 45 elbows and straight segment. [18-TG-25]		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP.		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 21 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Pages 2-3.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

(b) (3) (B)

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE (b) (6)	DATE 22 JUN 2023
--	--------------------------------------	---------------------

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



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

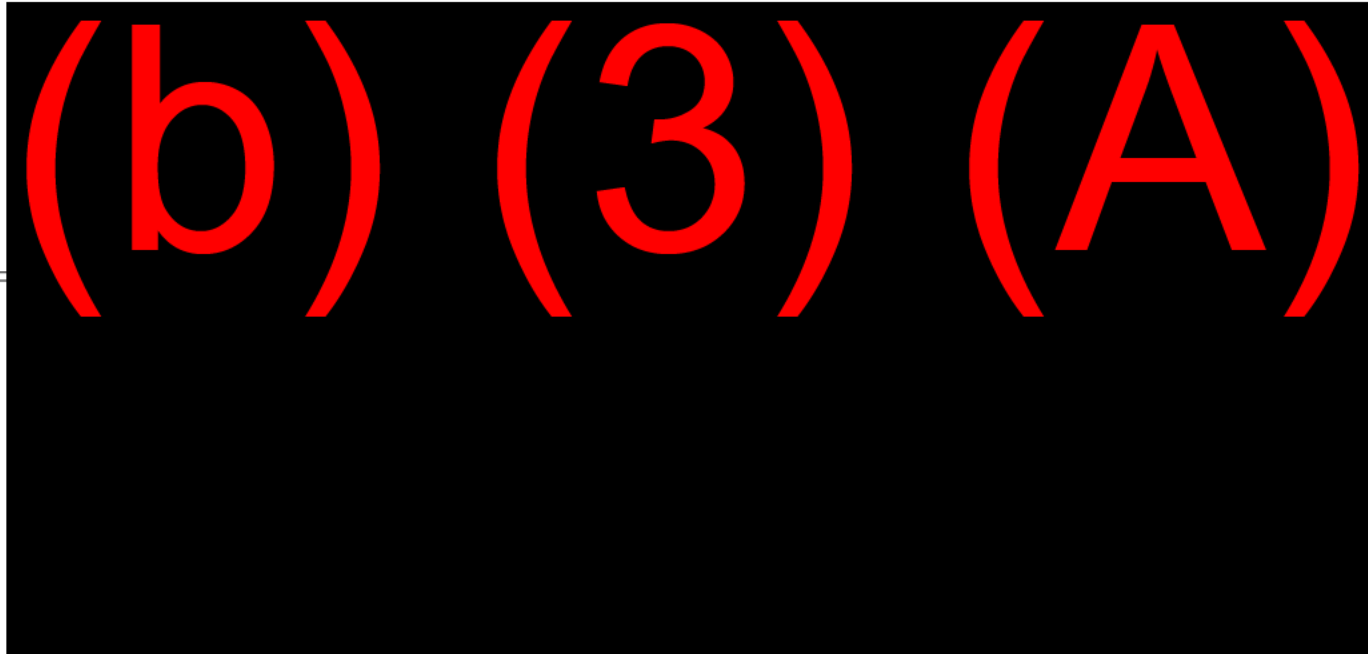


New offset spool installed at Pipe Support 4.

EMERGENT PIPELINE REPAIRS

Repair 236

REPAIR ID	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	INSPECTOR
(b) (3) (A)	SHOP WELD							(b) (6)	02 / 05 / 2022							P	04 / 05 / 2022	(b) (6)
																P	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							02 / 05 / 2022							P	04 / 05 / 2022		
															P	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							02 / 05 / 2022							P	04 / 05 / 2022		
															P	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							02 / 05 / 2022							P	04 / 05 / 2022		
															P	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							02 / 05 / 2022							P	04 / 05 / 2022		
															P	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							02 / 05 / 2022							P	04 / 05 / 2022		
															P	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		
	P	01 / 10 / 2023		01 / 11 / 2023	P	(b) (6)	01 / 11 / 2023	(b) (6)	01 / 12 / 2023	P	01 / 12 / 2023	(b) (6)		(b) (6)	P	02 / 07 / 2023	(b) (6)	
													P	02 / 28 / 2023		Arc strike noted by EXWC		
	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		
	P	01 / 10 / 2023		01 / 11 / 2023	P	(b) (6)	01 / 11 / 2023	(b) (6)	01 / 12 / 2023	P	01 / 12 / 2023	(b) (6)		(b) (6)	P	02 / 07 / 2023	(b) (6)	



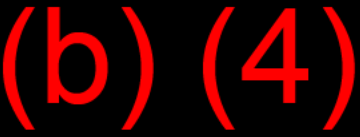
SHEET NOTES:

1. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
2. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
3. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
4. ALL WELDS, FOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINESS
 - 2.2. PREHEATING
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE.
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.

9845	CONTRACT N39430-15-D-2225 TO N3943021F4207		
STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - UPPER PIPING			
FILE NO. G-1		REV. REV. 1	
DRN PEF	CHK BDR	DATE 03/18/2022	PLATE



CONSTRUCTION SUBMITTAL

(b) (3) (A)

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

Plot Date: Jan 20, 2022 - 1:48:48 PM Drawing File: N:\Missouri\Current\Weld\Lat-2.dwg

9845	CONTRACT N39430-15-D-2225 TO N3943021F4207			
STANDARD DETAIL RED HILL EMERGENT PIPELINE REPAIR PIPE REPAIR				
E. NO. LAT-2		REV. REV. 0		
PN PEF	CHK. BDR	DATE 01/19/2022	PLATE	

(b) (4)





CONSTRUCTION SUBMITTAL

(b) (4)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

W. O. No.: 22098
Report No.: 6540422
Date: 4/4/22
Page 1 of 2

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3	1. Single Wall												
PROJECT Red Hill	DWG. NO.	PROCEDURE WSPROC REV C	ACC. PROC. B31.3 REV 2015													
RT SOURCE DR 152	FILM AGFADS	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS	(b) (3) (A)	2. Panoramic									
SOURCE (b) (3) (A)	TYPE 1B	TECHNIQUE USED 3	THICKNESS (b) (3) (A)	3. Single Wall												
FOCAL S (b) (3) (A)	MATERIAL SS	EXPOSURE TIME 4:30	JOINT (b) (3) (A)	4. Offset												
SFD (b) (3) (A)	LOCATION F	PROCESSING <input checked="" type="checkbox"/> MANUAL <input type="checkbox"/> AUTOMATIC	PIPE DIA (b) (3) (A)	5. Double Wall												
WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	U. I.	Film Artifact	REMARKS	6. Elliptical
(b) (3) (A)	(b) (3) (A)	.020	X													7. Plate
(b) (3) (A)	(b) (3) (A)	.020	X													8. Other
(b) (3) (A)	(b) (3) (A)	.020	X	X												
(b) (3) (A)	(b) (3) (A)	.020	X	X												
(b) (3) (A)	(b) (3) (A)	.020	X	X												

(b) (6)

II
C-1A Level
4/4/22
Date of Inspection
Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 72-098

Report No.: 4/4/22

Page 2 of 2

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	T. I.	Film Artifact	REMARKS
(b) (3) (A)	1026		X												
			X												
			X												
			X	X											
(b) (3) (A)	1026		X												
			X												
			X												
			X	X											
(b) (3) (A)	1026		X												
			X												
			X												
			X	X											

(b) (4)

II 4/4/22
TC-1A Level Date of Inspection

(b) (4)

HYDROSTATIC TEST FORM

CLIENT: (b) (4), (b) (3) (A)

SYSTEM: [Redacted]

Project Name: Red Hill Emergent Pipe Repairs

System Description (b) (3) (A)
Starting point
Connection Point
Ending point

PSI Req.: [Redacted] Time Req.: 4 hours

Start 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 DSE Start of test NO VISIBLE LEAKS
2	10:15 AM	(b) (3) (A)	Holding / no visible leaks
3	10:30 AM	(b) (3) (A)	" " " "
4	10:45 AM	(b) (3) (A)	" " " "
5	11:00 AM	(b) (3) (A)	" " " "
6	11:15 AM	(b) (3) (A)	" " " "
7	11:30 AM	(b) (3) (A)	" " " "
8	11:45 AM	(b) (3) (A)	" " " "
9	12:00 PM	(b) (3) (A)	Heat from sun increasing pressure
10	12:15 PM	(b) (3) (A)	" " " "
11	12:30 PM	(b) (3) (A)	" " " "
12	12:45 PM	(b) (3) (A)	" " " "
13	1:00 PM	(b) (3) (A)	" " " "
14	1:15 PM	(b) (3) (A)	" " " "
15	1:30 PM	(b) (3) (A)	Holding pressure, no leaks
16	1:45 PM	(b) (3) (A)	" " " "
17	2:00 PM	(b) (3) (A)	released pressure back to (b) (3) (A) psi

PSI Gauge Manufacturer: Ashcroft 0-600 - calibrated 4-2-22

Test Witness Client:

Test Witness (b) (4) sp.: (b) (6)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	240	
Address	(b) (4)	Repair ID	EPRC.K.q	
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027		Report Date	22 JUN 2023
QV Engineer	(b) (6)			

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAAs Page 54 & 75	Tank Gallery	(b) (3) (A)
Repair Description	Remove approximately 46-inch length mainline bell connection segment between PS 59 and PS 60. Provide 6 lf welded pup replacement. [18-TG-41]		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Pipe welds 100% inspection via Radiographic Testing.		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor removed fillet welded bell connection between PS 59 and 60, installed 6 LF of new piping with butt welded piping. New welds were 100% radiographically tested.

NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

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

(b) (3) (A)

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	INSPECTOR
SHOP WELD							(b) (6)	02 / 05 / 2022							P	04 / 05 / 2022	(b) (6)
															P	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	INSPECTOR	
SHOP WELD							02 / 05 / 2022							P	04 / 05 / 2022		
														P	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	INSPECTOR	
SHOP WELD							02 / 05 / 2022							P	04 / 05 / 2022		
														P	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	INSPECTOR	
SHOP WELD							02 / 05 / 2022							P	04 / 05 / 2022		
														P	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	INSPECTOR	
SHOP WELD							02 / 05 / 2022							P	04 / 05 / 2022		
														P	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	INSPECTOR	
SHOP WELD							02 / 05 / 2022							P	04 / 05 / 2022		
														P	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	INSPECTOR	
SHOP WELD							02 / 05 / 2022							P	04 / 05 / 2022		
														P	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	INSPECTOR	
P	01 / 10 / 2023		01 / 11 / 2023	P	(b) (6)	01 / 11 / 2023	01 / 12 / 2023	P	01 / 12 / 2023	(b) (6)				P	02 / 07 / 2023		
														P	02 / 28 / 2023	(b) (6)	
															Arc strike noted by EXWC		
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	INSPECTOR	
P	01 / 10 / 2023		01 / 11 / 2023	P	(b) (6)	01 / 11 / 2023	01 / 12 / 2023	P	01 / 12 / 2023	(b) (6)				P	02 / 07 / 2023		

r 240

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-039

Report No.: 6520723

Date: 2/07/23

Page 1 of 3

CUSTOM (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3
PROJECT Red Hill cement Pipeline	DWG. NO.	PROCEDURE NDT/ASME REV C	ACC. PROC. B31.3 REV 2015
RT SOURCE IR-92	FILM AGFADS	PB SCREENS	MATERIAL CS
SOURCE (b) (3) (A)	TYPE IB	SHIMS MAT'L/THKNS	TECHNIQUE USED 3
FOCAL (b) (3) (A)	MATERIAL SF	EXPOSURE TIME 4:00	(b) (3) (A)
SFD (b) (3) (A)	LOCATION F	PROCESSING	MANUAL / AUTOMATIC

- Single Wall
- Single Wall
- Double Wall
- Double Wall 0/90
- Plate
- Other

WELD #	VIEW #	GEOMETRIC UNSHARPNESS 'UG'	DEFECTS											REMARKS		
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	T.I.		Film Artifact	
(b) (3) (A)		020	X													(b) (3) (A)
		/	X													
		/	X													
		/	X													
		026	X													
		/	X													
		/	X													
		/	X													

(b) (6)

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

(b) (4)

Location: Red Hill Page 1 of 1
Job No.: 23-034
Code: Customer Spec: No Cracks

Report No. GS022823

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: ARC Strikes		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 MIN
Surface Condition: <input type="checkbox"/> As Welded <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Other Weld Prep <input type="checkbox"/> New weld	Cleaner	Magnaflux	SKC-S	N/A	1A01K 030929	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	06010K 04394	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	07K15K 08738	Developing Time: 15 Min
Temperature: <input checked="" type="checkbox"/> 60° F – 125° F Other _____		Illumination: <input checked="" type="checkbox"/> White		FC 150		(b) (4) Control # UV Meter <input type="checkbox"/> N/A <input type="checkbox"/>

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Customer request test to check for cracks after arc strike removal. No indications noted at time of inspection.
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

Performed By (b) (6) Level II Date: 2/28/2023 Reviewed By: Date:

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	241
Address	(b) (4)	Repair ID	EPRC.K.r
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	22 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAAs Page 75	Tank Gallery	(b) (3) (A)
Repair Description	(b) (3) (B)		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	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).		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 14 JUN 2023		

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

Comments
(b) (3) (A)
NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

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

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	INSPECTOR
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) (6)
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	INSPECTOR	
P	01 / 20 / 2023	(b) (6)	01 / 20 / 2023	P	(b) (6)	01 / 20 / 2023	01 / 23 / 2023	P	01 / 23 / 2023	(b) (6)				P	02 / 06 / 2023		
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	INSPECTOR	
SHOP WELD							02 / 04 / 2022							P	04 / 21 / 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	INSPECTOR	
SHOP WELD							02 / 04 / 2022							P	04 / 21 / 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	INSPECTOR	
P	01 / 20 / 2023	(b) (6)	01 / 20 / 2023	P	(b) (6)	01 / 20 / 2023	01 / 23 / 2023	P	01 / 23 / 2023	(b) (6)				P	02 / 06 / 2023		
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	INSPECTOR	
P	01 / 24 / 2023	(b) (6)	01 / 24 / 2023	P	(b) (6)	01 / 24 / 2023	01 / 25 / 2023	P	01 / 25 / 2023	(b) (6)				P	02 / 07 / 2023		
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	INSPECTOR	
P	01 / 25 / 2023	(b) (6)	01 / 25 / 2023	P	(b) (6)	01 / 25 / 2023	01 / 26 / 2023	P	01 / 27 / 2023	(b) (6)				P	02 / 07 / 2023		

SHEET NOTES:

1. REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANNON RAPID-RISE FIRE BLANKET FE2000SSSSS, 2-INCH THICK, EXTENDED 12-INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STYLE 440 RESTRAINT RODS. FIELD VERIFY DIMENSIONS OF DRESSER COUPLING PRIOR TO ORDERING FIRE BLANKET.
2. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
3. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
4. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
5. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TIE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINESS
 - 2.2. PREHEATING
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.



Last modified by:

Drawing File: \\1946\Draw\Current\Draw\02-2.dwg

Mar 18, 2022 - 5:45pm

Plot Date:

9845	CONTRACT N39430-15-D-2225 TO N3943021F4207				
<div style="font-size: 48pt; color: red; font-weight: bold;">(b) (4)</div>	STANDARD DETAIL				
	RED HILL EMERGENT PIPELINE REPAIR GENERAL VIEW - LOWER PIPING				
	FILE NO. G-2				REV. REV. 1
DRN PEF	CHK BDR	DATE 03/18/2022	PLATE		

CONSTRUCTION SUBMITTAL

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4) W. O. No.: 23-023
Report No.: GS020623
Page 2 of 2

WELD #	VIEW #	GEOMETRIC UNSHARPNESS 'UG'	DEFECTS										REMARKS			
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back		T. I.	Film Artifact	
(b) (3) (A)	(A)	.020	X													(b) (3) (A)
		/	X													
		/	X													
		.020	X													
		/	X													
		/	X													
		.020	X													
		/	X													
		/	X													
		/	X													
		/	X													
		/	X													

(b) (6)

II
NT-TC-1A Level Date of Inspection 2/6/23

(b) (4)

(b) (4)

W. O. No.: 22-098

Report No.: 6541927

Date: 4/19/22

Page 1 of 3

RADIOGRAPHIC INSPECTION REPORT

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION B31.3 ASME	ACCEPTANCE ASME R31.3
PROJECT (b) (4)	DWG. NO.	PROCEDURE NDT.006 REV C	ACC. PROC. B31.3 REV 2015
RT SOURCE IR P2	FILM AG FAD5	PB SCREENS	PENS: ASTM
SOURCE (b) (3) (A)		SHIMS MAT'L THKNS	MATERIAL CS
FOCUS (b) (3) (A)		TYPE 1B	TECHNIQUE USED 3
SFD (b) (3) (A)		MATERIAL CS	EXPOSURE TIME 2:30
		LOCATION F	PROCESSING <input checked="" type="checkbox"/> MANUAL <input type="checkbox"/> AUTOMATIC

- 1. Single Wall
- Panoramic
- Single Wall
- Offset
- 3. Double Wall
- 4. Double Wall 0/90
- Elliptical
- 5. Plate
- 6. Other

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	DEFECTS											REMARKS		
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	T.I.		Film Artifact	
ITEM P (b) (3) (A)	/	0.20	X													
		/	X													
		/	X													
/	/	0.60	X													
		/	X													
		/	X													
/	/	0.20	X													
		/	X													
		/	X													

(b) (6)

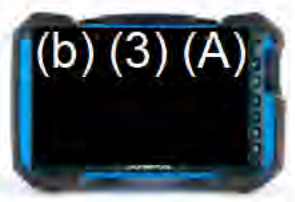
PAUT TEST RESULTS

(b) (4)

Project	(b) (4)	Contact	(b) (6)	Date	05/30/2023
Client	(b) (3) (A)	Location	Hawaii	Time	14:38
Project No.		Inspector Name	(b) (6)	Total pages	9
Inspection No.	Group 1	Inspector Licence			
Description	90 to 270 degrees				

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 (b) (3) (A) reducing weldolet. The (b) (3) (A) pipe wall thickness is (b) (3) (A). A multi-part (group) scan plan is utilized to ensure complete weld coverage. The global zero reference origin location is at the top-dead-center of the (b) (3) (A) pipe 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) (A) pipe. Scan (b) (3) (A) offset as defined in scan plans. Hard return signals from the cut edge of the (b) (3) (A) 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 identified throughout the weld volume. No relevant indications meet rejection criteria of ASME BPVC 31.3.

Inspector Signature

PAUT TEST LEVEL III CERTIFICATION

(b) (4)

Examination Results

September 22, 2022

(b) (6)

(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) certifications.

(b) (4)

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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	242
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	EPRC.K.s
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	22 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAAs Page 75	Tank Gallery	(b) (3) (A)
Repair Description	Remove approximately [Sic] 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]		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Pipe welds 100% inspection via Radiographic Testing.		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily reports). Final acceptance by government. Date: 21 MAR 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor removed existing fillet welded bell connection segment between Pipe Support 68 and 69, penetrating the bulkhead at Door 3. Crew butt welded in two pup pieces to allow for insertion through the bulkhead penetration. Contractor replaced firestopping material on the bulkhead penetration.

NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

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

REPAIR ID	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	INSPECTOR
(b) (3) (A)	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) (6)
	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	INSPECTOR
	P	01 / 20 / 2023	(b) (6)	01 / 20 / 2023	P	(b) (6)	01 / 20 / 2023	(b) (6)	01 / 23 / 2023	P	01 / 23 / 2023	(b) (6)				P	02 / 06 / 2023	(b) (6)
	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	INSPECTOR
	SHOP WELD								02 / 04 / 2022							P	04 / 21 / 2022	(b) (6)
	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	INSPECTOR
	SHOP WELD								02 / 04 / 2022							P	04 / 21 / 2022	(b) (6)
	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	INSPECTOR
	P	01 / 20 / 2023	(b) (6)	01 / 20 / 2023	P	(b) (6)	01 / 20 / 2023	(b) (6)	01 / 23 / 2023	P	01 / 23 / 2023	(b) (6)				P	02 / 06 / 2023	(b) (6)
	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	INSPECTOR
	P	01 / 24 / 2023	(b) (6)	01 / 24 / 2023	P	(b) (6)	01 / 24 / 2023	(b) (6)	01 / 25 / 2023	P	01 / 25 / 2023	(b) (6)				P	02 / 07 / 2023	(b) (6)
	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	INSPECTOR
	P	01 / 25 / 2023	(b) (6)	01 / 25 / 2023	P	(b) (6)	01 / 25 / 2023	(b) (6)	01 / 26 / 2023	P	01 / 27 / 2023	(b) (6)				P	02 / 07 / 2023	(b) (6)

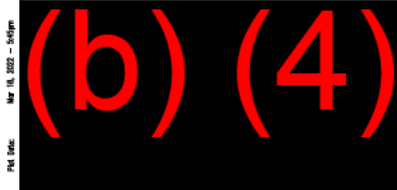
242

SHEET NOTES:

1. REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANNON RAPID-RISE FIRE BLANKET FE2000SSSSS, 2-INCH THICK, EXTENDED 12-INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STYLE 440 RESTRAINT RODS. FIELD VERIFY DIMENSIONS OF DRESSER COUPLING PRIOR TO ORDERING FIRE BLANKET.
2. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
3. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
4. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
5. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINESS
 - 2.2. PREHEATING
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE.
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.



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

CONSTRUCTION SUBMITTAL

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

O. No.: 73-0834

Report No.: 6520723

Page 2 of 3

WELD #	VIEW #	GEOMETRIC UNSHARPNESS "UG"	DEFECTS										REMARKS		
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back		T. I.	Film Artifact
(b) (3) (A)	20	X													(b) (3) (A)
		X													
		X													
		X													
020		X													
		X													
		X													
		X													
026		X													
		X													
		X													
		X													
026		X													
		X													
		X													
		X													

(b) (6)

II

2/2/23

TC-1A Level

Date of Inspection

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	(b) (4)	Repair No.	243
Address	(b) (4)	Repair ID	EPRC.K.t
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	22 JUN 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAAs Page 76	Tank Gallery	(b) (3) (A)
Repair Description	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.		Source Contract Reference N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Pipe welds 100% inspection via Radiographic Testing.		Contractor QC Records Reviewed CQCP and Daily Reports
Description of QA Validation and Observations	Government Quality Assurance is documented by the QSR's in the daily CQC reports using NAVFAC Form 4296/2. Visually inspected completed installation; matched completed construction against design and material submittals. Reviewed NDE reports. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repairs and reviewed contractor QC documentation (Work Plan, submittals, daily Final acceptance by government. Date: 14 JUN 2023		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Page 2.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor removed 96-inch segment of piping at PS 75; replacement by butt welded segment of new piping. Installed new pipe cradle to replace existing corroded cradle. NDE result table, NDE inspection report, weld map/design detail included for reference.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	22 JUN 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)



Repaired pipe cradle at Pipe Support 75.

EMERGENT PIPELINE REPAIRS

ROOT 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	INSPECTOR
P	01 / 26 / 2023	(b) (6)	01 / 26 / 2023	P	(b) (6)	01 / 26 / 2023	(b) (6)	01 / 26 / 2023	P	01 / 26 / 2023	(b) (6)			P	02 / 07 / 2023	(b) (6)
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	01 / 31 / 2023		P	01 / 31 / 2023		01 / 31 / 2023		P	02 / 01 / 2023	02 / 01 / 2023	P	02 / 07 / 2023		P	02 / 07 / 2023	
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	01 / 31 / 2023		P	01 / 31 / 2023		01 / 31 / 2023		P	02 / 01 / 2023	02 / 01 / 2023	P	02 / 07 / 2023		P	02 / 07 / 2023	
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	02 / 02 / 2023		P	02 / 02 / 2023		02 / 02 / 2023		P	02 / 02 / 2023	02 / 02 / 2023	P	02 / 24 / 2023	(b) (6)			
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	02 / 02 / 2023		P	02 / 02 / 2023		02 / 02 / 2023		P	02 / 02 / 2023	02 / 02 / 2023	P	02 / 24 / 2023				
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	02 / 02 / 2023		P	02 / 02 / 2023		02 / 02 / 2023		P	02 / 02 / 2023	02 / 02 / 2023	P					
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	02 / 06 / 2023		P	02 / 06 / 2023		02 / 06 / 2023		P	02 / 06 / 2023	02 / 06 / 2023				N/A	02 / 07 / 2023	(b) (6)
ROOT PASS							COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	DATE	DATE	DATE	DATE	VT P/F	DATE	DATE	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
														P	02 / 24 / 2023	

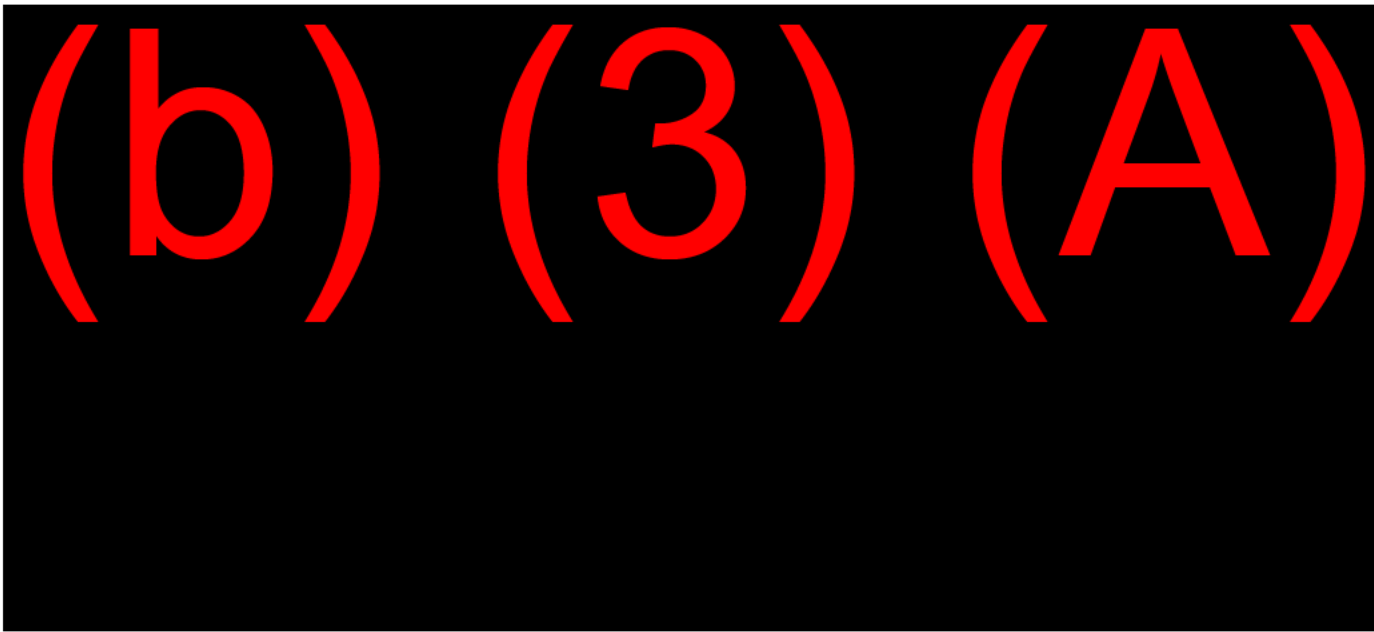
air 243

SHEET NOTES:

1. REMOVE EXISTING CALCIUM SILICATE INSULATION AND JACKETING FROM 12-INCH DRESSER COUPLING NEAR TANK 10. PROVIDE SHANNON RAPID-RISE FIRE BLANKET FE2000SSSSS, 2-INCH THICK, EXTENDED 12-INCHES ON EACH SIDE OF COUPLING FLANGES AND UNDER THE STYLE 440 RESTRAINT RODS. FIELD VERIFY DIMENSIONS OF DRESSER COUPLING PRIOR TO ORDERING FIRE BLANKET.
2. COMPONENTS NOTED AS TEMPORARY (IDENTIFIED WITH CROSS HATCH) ARE FOR RESTRAINT OF PIPING WHILE TANKS ARE OUT OF SERVICE AND WILL NOT BE SUBJECT TO INTERNAL PRESSURES. LABEL PIPING TO INDICATE IT IS NOT FOR FUEL USE.
3. RADIOGRAPHIC EXAMINATION MUST BE PERFORMED ON ALL BUTT WELDS FOR TEMPORARY AND PERMANENT COMPONENTS.
4. ALL SHOP PERFORMED WELDS, EXCEPT THOSE IDENTIFIED FOR TEMPORARY COMPONENTS, MUST BE HYDROSTATICALLY TESTED WITH WATER TO 425 PSIG FOR NOT LESS THEN 4 HOURS.
5. ALL WELDS, TOR TEMPORARY OR PERMANENT COMPONENTS, IDENTIFIED AS "HYDRO-EXEMPT TIE-IN WELDS" ARE SUBJECT TO TIE-IN WELD EXAMINATION.

TE-IN WELD EXAMINATION

1. IN ADDITION TO FINAL RADIOGRAPHIC EXAMINATION, TE-IN WELDS IDENTIFIED AS "HYDRO EXEMPT TIE-IN WELDS" MUST RECEIVE AN ENHANCED IN-PROCESS EXAMINATION IN ACCORDANCE WITH ASME B31.3 SECTION 344.7.
2. IN-PROCESS EXAMINATION MUST BE PERFORMED BY A CERTIFIED WELDING INSPECTOR AND INCLUDES VISUAL EXAMINATION OF:
 - 2.1. JOINT PREPARATION AND CLEANLINES
 - 2.2. PREHEATING.
 - 2.3. FIT-UP, JOINT CLEARANCE, AND INTERNAL ALIGNMENT PRIOR TO JOINING.
 - 2.4. VARIABLES SPECIFIED BY JOINING PROCEDURE INCLUDING FILLER MATERIAL POSITION AND ELECTRODE.
 - 2.5. EXTERNAL CONDITION OF THE ROOT PASS AFTER CLEANING.
 - 2.6. SLAG REMOVAL AND WELD CONDITION.
 - 2.7. APPEARANCE OF THE FINISHED JOINT.
3. CLOSURE WELDS THAT RECEIVE IN-PROCESS EXAMINATION AND 100% RADIOGRAPHIC EXAMINATION ARE EXEMPT FROM HYDROSTATIC TESTING IN ACCORDANCE WITH ASME B31.3 SECTION 345.2.3.



Last modified by

Drawing File: \\19465\Draw\Current\Drawn\02-2.dwg

Mar 18, 2022 - 5:49pm

Plot Date:



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

CONSTRUCTION SUBMITTAL

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

O. No.: 73-0834

Report No.: 6520723

Page 2 of 3

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*											REMARKS		
			ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back		T. I.	Film Artifact
(b) (3) (A)	(A)	20	X												(b) (3) (A)
			X												
			X												
			X												
	020		X												
			X												
			X												
			X												
	026		X												
			X												
			X												
			X												
026		X													
		X													
		X													
		X													

(b) (6)

II

7/2/23

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

O. No.: 23-037
Report No.: GS20723
Page 3 of 3

WELD #	VIEW #	GEOMETRIC UNSHARPNESS	ACCEPT											REMARKS	
			REJECT	Porosity	Sing Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Slick Back	1-1	Artifact		
(b) (3) (A)		.026	X											(b) (3) (A)	
			X												
			X												
			X												
		.026	X												
			X												
			X												
			X												

(b) (6)

II
Date of Inspection 2-7-23
-TC-1A Level