QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	005
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4).27
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	319	RHL	Various

Repair Description	(b) (3) (A)	Source Contract Reference	N3943020D2225N 3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Pipe butt welds 100% inspection via Radiographic Testing. Socket welds inspected by PT, hydrostatically tested.	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: 30 JUN 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

(b) (3) (A)

Repair 005

WELD INFORMATION								INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
TANK 16 HIGH POINT VENT & EQUALIZATION LINE											
(b) (3) (A)	1	[redacted]	SW	[redacted] RFSW Flange	PIPE	(b) (3) (A)	3/2/2023	CWI VT	(b) (6)		PASSED
								PT		6/30/2023	PASSED
	2		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	3		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	4		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	5		SW	90* SW ELBOW	PIPE NIPPLE (TOE)		3/2/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	6			ELIMINATED							
	7		BW	VESSEL-O-LET	[redacted] WN Flange		6/14/2023	CWI VT			
								RT		6/16/2023	PASSED
	8		BW	VESSEL-O-LET	[redacted] PIPE RUN		6/21/2023	CWI VT		6/21/2023	PASSED
								RT		6/27/2023	PASSED
	9		BW	[redacted] PIPE RUN	VESSEL-O-LET		6/23/2023	CWI VT		6/23/2023	PASSED
								RT		6/27/2023	PASSED
	10		BW	VESSEL-O-LET	[redacted] RFWN Flange		6/14/2023	CWI VT			PASSED
								RT		6/27/2023	PASSED
	11		SW	[redacted] RFSW Flange	PIPE		4/6/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	12		SW	PIPE	90* SW ELBOW		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	12a		SW	90* SW ELBOW	PIPE		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	13		SW	PIPE	90* SW ELBOW		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	14		SW	90* SW ELBOW	PIPE		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	15		SW	PIPE	90* SW ELBOW		4/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	16		SW	90* SW ELBOW	PIPE		4/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	17		SW	PIPE	SW TEE		4/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	18		SW	SW TEE	PIPE		4/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	19		SW	PIPE	[redacted] RFSW Flange		4/4/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	20		SW	[redacted] RFSW Flange	PIPE NIPPLE (TOE)		4/4/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	21		SW	SW TEE	PIPE		4/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	22		SW	PIPE	SW TEE		4/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	23		SW	SW TEE	PIPE		4/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	24		SW	PIPE	[redacted] RFSW Flange		4/4/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	25		SW	[redacted] RFSW Flange	PIPE NIPPLE (TOE)		4/4/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	26		SW	SW TEE	PIPE		4/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	27		SW	PIPE	[redacted] RFSW Flange		4/5/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	28		SW	RFSW Flange	PIPE		4/5/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	29		SW	PIPE	SW TEE		4/5/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	30		SW	SW TEE	PIPE		4/5/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	31		SW	SW TEE	PIPE		4/5/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	32		SW	PIPE	[redacted] RFSW Flange		4/5/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	33		SW	[redacted] RFSW Flange	PIPE NIPPLE (TOE)		4/5/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	34		SW	PIPE	90* SW ELBOW		4/5/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	35		SW	90* SW ELBOW	PIPE		4/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	36		SW	PIPE	90* SW ELBOW		4/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	37		SW	90* SW ELBOW	PIPE		4/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED

Repair 005

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT		JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)	37a	(b) (3) (A)	SW	PIPE		[redacted] RFSW Flange	(b) (6)	5/24/2023	CWI VT	(b) (6)		PASSED
									PT		6/30/2023	PASSED
	38		SW	[redacted] RFWN Flange		VESSEL-O-LET		6/14/2023	CWI VT			PASSED
									RT		6/30/2023	PASSED
	39		SW	VESSEL-O-LET		[redacted] PIPE RUN		6/21/2023	CWI VT		6/21/2023	PASSED
									RT		6/27/2023	PASSED

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

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GS61623

Date: 6/14/23

Page 1 of 1

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT Red Hill Emergent Piping	DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015		
RT SOURCE Ir 192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS /	MATERIAL CS
SOU (b) (3) (A)			TYPE 1B	TECHNIQUE USED 4	THICKNESS (b) (3) (A)
FOC			MATERIAL SS	EXPOSURE TIME 1:00	JOINT TYPE
SFD			LOCATION S	PROCESSING ☒ MANUAL ☐ AUTOMATIC	PIPE DIA.

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)	0	.020	X												(b) (3) (A)
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												

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

Radiographer	Date	Film Interpreter	SNT-TC-1A Level	Date of Inspection	Customer
(b) (6)	6/14/23	(b) (6)	II	6/14/23	

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GS062723

Date: 6-27-2023

Page 1 of 4

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3			
PROJECT Redhill Emergent Pipeline	DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015			
RT SOURCE IR192	FILM AGFA D5	PB SCREENS	PENS ASTM	SHIMS MAT'L/THKNS	MATERIAL CS	
SOU (b) (3) (A)			TYPE 1-B	TECHNIQUE USED 3	THICKNES (b) (3) (A)	
FOC			MATERIAL CS	EXPOSURE TIME 2:00	JOINT TYP	
SFD			LOCATION	PROCESSING ☒ MANUAL ☐ AUTOMATIC	PIPE DIA.	

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"	ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	I.T.	Film Artifact	REMARKS
(b) (3) (A)	0	.070	X												(b) (3) (A)
	60		X												
	120		X												
	0	.070	X												
	60		X												
	120		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

(b) (6) — Radiographer — 6-27-2023 — Date

(b) (6) — Film Interpreter

II — SNT-TC-1A Level

6-27-2023 — Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: G-SOC2723

Page 2 of 4

(b) (3) (A)

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
	1-2	.020	X												
	2-3	/	X												
	3-4		X												
	4-1	/	X												
	1-2	.020	X												
	2-3	/	X												
	3-4		X												
	4-1	/	X												
	0	.020	X												
	60	/	X		/										
	120	/	X												
	1-2	.020	X												
	2-3	/	X												
	3-4	/	X												
	4-1	/	X				/								
	1-2	.020	X												
	2-3	/	X												
	3-4	/	X												
	4-1	/	X												

(b) (3) (A)

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

6-29-2023

Date of Inspection

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1
P.O. No.:	Job No.: 23-121	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS042723		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC ≥100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	PT Inspection performed on 50% of the (b) (3) socket welds associated with (b) (3) separate tanks equalizer piping system. No relevant indications noted. See Pictures and Drawings for Reference.
	☒	☐	
	☒	☐	

Performed B (b) (6)	Level II	Date: 05-01-23	Reviewed By: Date:

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1 of 1
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS063023		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC >100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (B)			PT Inspection performed 1" socket welds associated with tanks equalizer piping system and high point vents. No relevant indications noted. See Drawings for Reference. (b) (3) (A)
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

Performed By (b) (6) Level II Date: 06-30-23 | Reviewed By: Date:

(b) (4)

HYDROSTATIC TEST FORM

CLIENT: (b) (4)

SYSTEM: (b) (3) (A)

Project Name: **Red Hill Emergent Pipeline Repair**

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

PSI Req.: (b) (3) (A) Time Req.: 4 hours

Start of Test Period: Time: 11:00 AM Date: 5-Jul-23

End of Test Period: Time: 3:00 PM Date: 5-Jul-23

No.	Time	PSI READING	Remarks
1	11:00AM	(b) (3) (A)	Initial Start
2	11:15AM		no leaks
3	11:30AM		
4	11:45AM		
5	12:00PM		
6	12:15PM		
7	12:30PM		small drop. No leaks
8	12:45PM		
9	1:00PM		
10	1:15PM		
11	1:30PM		
12	1:45PM		small drop. No leaks
13	2:00PM		
14	2:15PM		small drop. No leaks
15	2:30PM		
16	2:45PM		
17	3:00PM		NO LEAKS

PSI Gauge Maufacturer: Ashcroft 0-600

Test Witness Client:

Test Witness OCI Rep.: (b) (6)

(b) (4)

(b) (4) Pg.1
1/1/15

Certificate of Calibration

(b) (4)

Ashcroft
Manufacturer

33805
Serial Number

03/29/2023
Calibration Date

03/29/2024
Recalibration Due

(b) (4)
Instrument Accuracy / Procedure

0-600 PSI
Model

Pressure Gauge
Description

182,308
Test Number

Asset Number

23 °C
Temperature

43 % RH
Humidity

(b) (4)

Calibration Standards Used:

Equip #	Manufacturer	Description	Model	Serial	Date Calibrated	Date Due
(b) (4)		Standards on File			01/01/2023	01/01/2024

(b) (6)

In Tolerance
Condition Received

In Tolerance
Condition Returned

Certified By

QA Inspect

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	013
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) LAT.38
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 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	Existing brace is heavily corroded. Replace brace as per (b) (4) retrofit concept design. Repair design done by others in conjunction with pipe stress analysis report. [K.II] On (b) (3) (A) construct lateral and longitudinal braces to reduce load on the baseplate. (See Comments)	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, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Repair Description Cont.: "Add diagonal braces to stabilize (b) (3) (A) Provide in accordance with recommendation in Pipeline Stress Analysis and Structural Evaluation Report dated Sep 2022. [PSAR.10]"
Contractor replaced (b) (3) (A) vertical structural member, baseplate, (b) (3) (A) anchors, and grout. An additional lateral brace of Provided lateral brace to (b) (3) (A) for longitudinal support.
Visual inspection was performed on the structural welds IAW AWS D1.1 code, 50% random.

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
epair 013	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

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

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; JBPHH	Date: 04-27-2023
P.O. No.: NA	Job No. 23-121	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS04272023		

MATERIAL	MAGNETIZING TECHNIQUE	MAGNETIZING EQUIPMENT
Type: C/S	Prod: ☒ AC ☐ DC Spacing 6"	Mfg.: Parker Serial #: 23962
Thickness: STD	Amps fixed Coil Dia. ____	Calibration Date 04/01/2023
Geometry: ☐ Pipe ☒ Plate ☐ Rod ☐ Other: ____	Longitudinal Turns n/a Amp Turns ____	Field Verification By: Pie Gauge
	Direct n.a	
	Circular n/a	UV Meter: n/a
Item: Repairs on Pipe Supports	Central Conductor n/a	MODEL: n/a Serial #: n/a
	Amps n/a	
Stage of Mfg.: New	Inspection Medium ☒ Dry Powder	Color: RED
	☐ Wet Visible	Type Batch No.: 22A006
Surface Condition: Buffed Clean	Illumination ☒ White ☐ Ultraviolet	

Item(s)	Accept	Reject	Item(s)	Accept	Reject	Sketch/Notes
Pipe Supports/Braces						
(b) (3) (A)	☒	☐				MT Inspection was requested and performed on 50% (welds were picked at random). (b) (3) (A) No relevant indications were found during this inspection.

Performed By: (b) (6) Date 05/01/2023 Reviewed By: Date: Page 1 of 4

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	014
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) LAT.40
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 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	Existing column is heavily corroded at the base. Replace column and anchorage. Repair design of pipe stand and baseplate done by others in conjunction with pipe stress analysis report. Repair (b) (3) (A) to account for deterioration (See Comments)	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, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Repair Description Cont.: "and structural adequacy. Buttweld in-kind replacement vertical structural members to eliminate corroded portions and provide new baseplates and anchors. Replace missing lateral brace on (b) (3) (A)

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
Repair 014	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client (b) (4)	Location: Red Hill; JBPHH	Date: 04-27-2023
P.O. No.: NA	Job No. 23-121	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS04272023		

MATERIAL	MAGNETIZING TECHNIQUE	MAGNETIZING EQUIPMENT
Type: C/S	Prod: ☒ AC ☐ DC Spacing 6"	Mfg.: Parker Serial #: 23962
Thickness: STD	Amps fixed Coil Dia. ____	Calibration Date 04/01/2023
Geometry: ☐ Pipe ☒ Plate ☐ Rod ☐ Other: ____	Longitudinal Turns n/a Amp Turns ____	Field Verification By: Pie Gauge
	Direct n.a	
	Circular n/a	UV Meter: n/a
Item: Repairs on Pipe Supports	Central Conductor n/a	MODEL: n/a Serial #: n/a
	Amps n/a	
Stage of Mfg.: New	Inspection Medium ☒ Dry Powder Color: RED	
	☐ Wet Visible Type Batch No.: 22A006	
Surface Condition: Buffed Clean	Illumination ☒ White ☐ Ultraviolet	

Item(s)	Accept	Reject	Item(s)	Accept	Reject
Pipe Supports/Braces					
(b) (3) (A)	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on 50% (welds were picked at random).

(b) (3) (A)

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 05/01/2023 Reviewed By: Date: Page 1 of 4

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	015
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) LAT.41
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 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	Existing column is heavily corroded at the base. Replace column and anchorage. Repair design of pipe stand and baseplate done by others in conjunction with pipe stress analysis report. Repair (b) (3) (A) account for deterioration (See Comments)	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, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Repair Description Cont.: "and structural adequacy. Buttweld in-kind replacement vertical structural members to eliminate corroded portions and provide new baseplates and anchors. Replace missing lateral brace on (b) (3) (A)

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
r 015	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; JBPHH	Date: 04-27-2023
P.O. No.: NA	Job No. 23-121	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS04272023		

MATERIAL	MAGNETIZING TECHNIQUE	MAGNETIZING EQUIPMENT
Type: C/S	Prod: ☒ AC ☐ DC Spacing 6"	Mfg.: Parker Serial #: 23962
Thickness: STD	Amps fixed Coil Dia. ____	Calibration Date 04/01/2023
Geometry: ☐ Pipe ☒ Plate ☐ Rod ☐ Other: ____	Longitudinal Turns n/a Amp Turns ____	Field Verification By: Pie Gauge
	Direct n.a	
	Circular n/a	UV Meter: n/a
Item: Repairs on Pipe Supports	Central Conductor n/a	MODEL: n/a Serial #: n/a
	Amps n/a	
Stage of Mfg.: New	Inspection Medium ☒ Dry Powder	Color: RED
	☐ Wet Visible	Type Batch No.: 22A006
Surface Condition: Buffed Clean	Illumination ☒ White ☐ Ultraviolet	

Item(s)	Accept	Reject	Item(s)	Accept	Reject
Pipe Supports/Braces					
(b) (3) (A)	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on 50% (welds were picked at random).

(b) (3) (A)

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 05/01/2023 Reviewed By: Date: Page 1 of 4

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	016
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) AT.42
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 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	Existing beam is heavily corroded at end closer to the tunnel wall. Replace beam. Repair design of pipe stand and baseplate done by others in conjunction with pipe stress analysis report.[K.kk]	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, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Original repair description was modified based on Pipeline Stress Analysis and Structural Evaluation Report dated Sep 2022: "Install a fixed connection between (b) (3) (A) and the gunite wall."
The recommended fixed connection to the gunite wall a (b) (3) (A) could not be constructed due to the limited clearance between the column and the wall. Longitudinal bracing was installed at the wall-side column of (b) (3) (A) to fulfill the design intent of this item. Designer of Record and NAVFAC EXWC concurred with this installation.

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
epair 016	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

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

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; JBPHH	Date: 04-27-2023
P.O. No.: NA	Job No. 23-121	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS04272023		

MATERIAL	MAGNETIZING TECHNIQUE	MAGNETIZING EQUIPMENT
Type: C/S	Prod: ☒ AC ☐ DC Spacing 6"	Mfg.: Parker Serial #: 23962
Thickness: STD	Amps fixed Coil Dia. ____	Calibration Date 04/01/2023
Geometry: ☐ Pipe ☒ Plate ☐ Rod ☐ Other: ____	Longitudinal Turns n/a Amp Turns ____	Field Verification By: Pie Gauge
	Direct n.a	
	Circular n/a	UV Meter: n/a
Item: Repairs on Pipe Supports	Central Conductor n/a	MODEL: n/a Serial #: n/a
	Amps n/a	
Stage of Mfg.: New	Inspection Medium ☒ Dry Powder Color: RED	
	☐ Wet Visible Type Batch No.: 22A006	
Surface Condition: Buffed Clean	Illumination ☒ White ☐ Ultraviolet	

Item(s)	Accept	Reject	Item(s)	Accept	Reject
Pipe Supports/Braces					
(b) (3) (A)	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on 50% (welds were picked at random)

(b) (3) (A)

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 05/01/2023 Reviewed By: Date: Page 1 of 4

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	021
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) .PM.01
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	390	Tank Gallery	Tank 20

Repair Description	Lack of bypass (b) (3) (A) (b) (3) (A) Install bypass from (b) (3) (A) (b) (3) (A) using existing sample outlets and drain line.	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. Socket welds inspected by PT, hydrostatically tested.	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: 30 JUN 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

Repairs 021 and 022

WELD INFORMATION								INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
TANK 20 HIGH POINT VENT & EQUALIZATION LINE											
(b) (3) (A)	1	(D) (3) (A	SW	(D) (3) (RFSW Flange	PIPE	(b) (6)	3/2/2023	CWI VT	(b) (6)		
								PT		5/1/2023	Passed
	2		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	3		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	4		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	5		SW	90* SW ELBOW	PIPE NIPPLE (TOE)		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	6			ELIMINATED							
	7		BW	(D) (RFWN Flange	VESSEL-O-LET		6/13/2023	CWI VT			PASSED
								RT		6/16/2023	PASSED
	8		BW	VESSEL-O-LET	(D) (3) PIPE RUN		6/19/2023	CWI VT		6/19/2023	PASSED
								RT		6/26/2023	PASSED
	9		BW	(D) (3) (PIPE RUN	VESSEL-O-LET		6/20/2023	CWI VT		6/20/2023	PASSED
								RT		6/26/2023	PASSED
	10		BW	VESSEL-O-LET	(D) (3 RFWN Flange		6/13/2023	CWI VT			PASSED
								RT		6/16/2023	PASSED
	10a		SW	(D) (3) RFSW Flange	PIPE		5/23/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	11		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	12		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	13		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	14		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	14a		SW	PIPE	SW COUPLING		5/23/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	14b		SW	SW COUPLING	PIPE		5/23/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	15		SW	PIPE	SW TEE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	16		SW	SW TEE	PIPE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	17		SW	PIPE	(D) (3 RFSW Flange		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	18		SW	(D) (3) RFSW Flange	PIPE NIPPLE (TOE)		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	19		SW	SW TEE	PIPE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	20		SW	PIPE	SW TEE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	21		SW	SW TEE	PIPE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	22		SW	PIPE	(D) (3) RFSW Flange		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	23		SW	(D) (3 RFSW Flange	PIPE NIPPLE (TOE)		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	24		SW	SW TEE	PIPE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	25		SW	PIPE	(D) (3 RFSW Flange		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	26		SW	RFSW Flange	PIPE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	27		SW	PIPE	SW TEE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	28		SW	SW TEE	PIPE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	29		SW	SW TEE	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	30		SW	PIPE	RFSW Flange		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	31		SW	RFSW Flange	PIPE NIPPLE (TOE)		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	32		SW	PIPE	90* SW ELBOW		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	33		SW	90* SW ELBOW	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	33a		SW	PIPE	SW COUPLING		5/23/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	33b		SW	SW COUPLING	PIPE		5/23/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED

Repairs 021 and 022

WELD INFORMATION									INSPECTION INFORMATION			
(b) (3) (A)	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
	34	(b) (3) (A)	SW	PIPE	90* SW ELBOW	(b) (6)	3/7/2023	CWI VT	(b) (6)		PASSED
								PT		6/27/2023	PASSED
	35		SW	90* SW ELBOW	PIPE		3/7/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	36		SW	PIPE	90* SW ELBOW		3/7/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	37		SW	90* SW ELBOW	PIPE		3/7/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	38		SW	PIPE	90* SW ELBOW		3/8/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	39		SW	90* SW ELBOW	PIPE		3/8/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	40a		SW	PIPE	(b) (3) RFSW Flange		5/23/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	40		BW	(b) (3) RFWN Flange	VESSEL-O-LET		6/13/2023	CWI VT			PASSED
								RT		6/16/2023	PASSED
	41		BW	VESSEL-O-LET	(b) (3) PIPE RUN		6/19/2023	CWI VT		6/19/2023	PASSED
								RT		6/27/2023	PASSED

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

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GSC1623

Date: 6/14/23

Page 1 of 1

FORM NDT-005.1

CUSTOMER (b) (4)		CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3	
PROJECT Red Hill Emergent Piping		DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015	
RT SOURCE Ir-192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS —	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 4	THICKNESS (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 1:00	JOINT TYPE
			LOCATION 5	PROCESSING [X] MANUAL [ ] AUTOMATIC	PIPE DIA.

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)	0	.020	X												(b) (3) (A)
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												

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

(b) (6) 6/16/23 Date

(b) (6) Film Interpreter

II SNT-TC-1A Level

6/14/23 Date of Inspection

Customer

[redacted]

RADIOGRAPHIC INSPECTION REPORT

[redacted]

W. O. No.: 23-034

Report No.: GS62723

Page 3 of 4

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
[redacted] (b) (3) (A)	1-2	.020	X												[redacted] (b) (3) (A)
	2-3	/	X												
	3-4	/	X												
	4-1	/	X												
	1-2	.020	X												
	2-3	/	X												
	3-4	/	X												
	4-1	/	X												
	1-2	-.020	X												
	2-3	/	X												
	3-4	/	X												
	4-1	/	X												
	1-2	-.020	X												
	2-3	/	X												
	3-4	/	X												
	4-1	/	X												
	1-2	.020	X												
	2-3	/	X												
	3-4	/	X												
	4-1	/	X												

[redacted] (b) (6)

Film Interpreter	SNT-TC-1A Level	Date of Inspection
[redacted]	II	6/30/23

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1
P.O. No.:	Job No.: 23-121	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS042723		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC ≥100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)			
	☒	☐	
	☒	☐	
	☒	☐	

PT Inspection performed on 50% of th(b) (3) (A)ocket welds associated with 3 separate tanks equalizer piping system.

No relevant indications noted.

See Pictures and Drawings for Reference.

Performed By (b) (6)	Level II	Date: 05-01-23	Reviewed By:	Date:

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill	Page 1 of 2
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS062723		

ITEM: Emergent Pipeline repair TK20

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: CS SW		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 MIN
Surface Condition: ☐ As Welded ☐ Ground ☐ Other ____ ☒ New weld	Cleaner	Magnaflux	SKC-S	N/A	21002K 002711	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	19G04K 01755	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	20L02U	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒ White		FC 150		(b) (4) Control # UV Meter ☐ N/A ☐

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

Performed By: (b) (6) Level II Date: 6/27/2023

Reviewed By: Date:

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: Oceanic	Location: Red Hill	Page 2 of 2
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS062723		

ITEM: Emergent Pipeline repair TK20

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: CS SW		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 MIN
Surface Condition: ☐ As Welded ☐ Ground ☐ Other ____ ☒ New weld	Cleaner	Magnaflux	SKC-S	N/A	21002K 002711	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	19G04K 01755	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	20L02U	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒White		FC 150	(b) (4)	Control # UV Meter ☐ N/A ☐

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☐	☐	
	☐	☐	

Performed B(b) (6) Level II Date: 6/27/2023

Reviewed By: Date:

(b) (4)

HYDROSTATIC TEST FORM

CLIENT: (b) (4)

SYSTEM: (b) (3) (A)

Project Name: **Red Hill Emergent Pipeline**

System Description: (b) (3) (A)

Starting point

Connection Point

Ending point

PSI Req.: (b) (3) (A) Time Req.: 4 hours

Start of Test Period: Time: 7:00am Date: 26-May-23

End of Test Period: Time: 11:00am Date: 26-May-23

No.	Time	PSI READING	Remarks
1	7am	(b) (3) (A)	Initial Start No leaks detected
2	715am		
3	730am		
4	745am		Line bumped up to (b) (3) (A)
5	800am		line settling
6	815am		line settling
7	830am		line settling
8	845am		line settling
9	900am		Line settling
10	915am		Line settling
11	930am		Holding Pressure Steady
12	945am		
13	1000am		
14	1015am		
15	1030am		
16	1045am		
17	1100am		Finished Test, No leaks.

PSI Gauge Maufacturer: Ashcroft 0-600

Test Witness Client:

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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	022
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) M.02
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	391	Tank Gallery	Tank 20

Repair Description	Lack of bypass from after (b) (3) (A) (b) (3) (A)	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. Socket welds inspected by PT, hydrostatically tested.	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: 30 Jun 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

Repairs 021 and 022

WELD INFORMATION								INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
TANK 20 HIGH POINT VENT & EQUALIZATION LINE											
(b) (3) (A)	1	(b) (3) (A)	SW	(b) (3) (A) RFSW Flange	PIPE	(b) (6)	3/2/2023	CWI VT	(b) (6)		
								PT		5/1/2023	Passed
	2		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	3		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	4		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	5		SW	90* SW ELBOW	PIPE NIPPLE (TOE)		3/2/2023	CWI VT			
								PT		5/1/2023	Passed
	6			ELIMINATED							
	7		BW	(b) (3) (A) WN Flange	VESSEL-O-LET		6/13/2023	CWI VT			PASSED
								RT		6/16/2023	PASSED
	8		BW	SEL-O-LET	(b) (3) (A) IPE RUN		6/19/2023	CWI VT		6/19/2023	PASSED
								RT		6/26/2023	PASSED
	9		BW	PIPE RUN	VESSEL-O-LET		6/20/2023	CWI VT		6/20/2023	PASSED
								RT		6/26/2023	PASSED
	10		BW	SEL-O-LET	(b) (3) RFWN Flange		6/13/2023	CWI VT			PASSED
								RT		6/16/2023	PASSED
	10a		SW	SW Flange	PIPE		5/23/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	11		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	12		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	13		SW	PIPE	90* SW ELBOW		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	14		SW	90* SW ELBOW	PIPE		3/2/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	14a		SW	PIPE	SW COUPLING		5/23/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	14b		SW	SW COUPLING	PIPE		5/23/2023	CWI VT			PASSED
								PT		6/26/2023	PASSED
	15		SW	PIPE	SW TEE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	16		SW	SW TEE	PIPE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	17		SW	PIPE	(b) (3) RFSW Flange		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	18		SW	(b) (3) RFSW Flange	PIPE NIPPLE (TOE)		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	19		SW	SW TEE	PIPE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	20		SW	PIPE	SW TEE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	21		SW	SW TEE	PIPE		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	22		SW	PIPE	(b) (3) RFSW Flange		3/3/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	23		SW	RFSW Flange	PIPE NIPPLE (TOE)		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	24		SW	SW TEE	PIPE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	25		SW	PIPE	(b) (3) RFSW Flange		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	26		SW	RFSW Flange	PIPE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	27		SW	PIPE	SW TEE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	28		SW	SW TEE	PIPE		3/4/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	29		SW	SW TEE	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	30		SW	PIPE	RFSW Flange		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	31		SW	(b) (3) RFSW Flange	PIPE NIPPLE (TOE)		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	32		SW	PIPE	90* SW ELBOW		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	33		SW	90* SW ELBOW	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	33a		SW	PIPE	SW COUPLING		5/23/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED
	33b		SW	SW COUPLING	PIPE		5/23/2023	CWI VT			PASSED
								PT		6/27/2023	PASSED

Repairs 021 and 022

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT		JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)	34	(b) (3) (A)	SW	PIPE		90* SW ELBOW	(b) (6)	3/7/2023	CWI VT	(b) (6)		PASSED
									PT		6/27/2023	PASSED
	35		SW	90* SW ELBOW		PIPE		3/7/2023	CWI VT			PASSED
									PT		6/27/2023	PASSED
	36		SW	PIPE		90* SW ELBOW		3/7/2023	CWI VT			PASSED
									PT		6/27/2023	PASSED
	37		SW	90* SW ELBOW		PIPE		3/7/2023	CWI VT			PASSED
									PT		6/27/2023	PASSED
	38		SW	PIPE		90* SW ELBOW		3/8/2023	CWI VT			PASSED
									PT		6/27/2023	PASSED
	39		SW	90* SW ELBOW		PIPE		3/8/2023	CWI VT			PASSED
									PT		6/27/2023	PASSED
	40a		SW	PIPE		(b) (3) RFSW Flange		5/23/2023	CWI VT			PASSED
									PT		6/27/2023	PASSED
	40		BW	(b) (6) RFWN Flange		VESSEL-O-LET		6/13/2023	CWI VT			PASSED
									RT		6/16/2023	PASSED
	41		BW	VESSEL-O-LET		(b) (3) (A) PIPE RUN		6/19/2023	CWI VT		6/19/2023	PASSED
									RT		6/27/2023	PASSED

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

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GSC1623

Date: 6/14/23

Page 1 of 1

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT Red Hill Emergent Piping	DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015		
RT SOURCE [illegible]	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS /	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 4	THICKNESS (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 1:00	JOINT TYPE
			LOCATION 5	PROCESSING [X] MANUAL [ ] AUTOMATIC	PIPE DIA.

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)	0	.020	X												(b) (3) (A)
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												
	0		X												
	60		X												
	120		X												

1. Single Wall Panoramic

2. Single Wall Offset

3. Double Wall

4. Double Wall 0/90 Elliptical

5. Plate

6. Other

(b) (6) 6/16/23 Date

(b) (6) Film Interpreter

II SNT-TC-1A Level

6/14/23 Date of Inspection

Customer

(b) (4) [redacted]

RADIOGRAPHIC INSPECTION REPORT

(b) (4) [redacted]

W. O. No.: 23-034

Report No.: GS62723

Page 3 of 4

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) [redacted]	1-2	.020	X												(b) (3) (A) [redacted]
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

(b) (6) [redacted] — II — 6/30/23

Film Interpreter — SNT-TC-1A Level — Date of Inspection

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1
P.O. No.:	Job No.: 23-121	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS042723		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC ≥100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)			PT Inspection performed on 50% of the (b) (3) (A) socket welds associated wi (b) (3) (A) eparate tanks equalizer piping system. No relevant indications noted. See Pictures and Drawings for Reference.
	☒	☐	
	☒	☐	
	☒	☐	

Performed B (b) (6)	Level II	Date: 05-01-23	Reviewed By: Date:

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill	Page 1 of 2
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS062723		

ITEM: Emergent Pipeline repair TK20

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: CS SW		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 MIN
Surface Condition: ☐ As Welded ☐ Ground ☐ Other ____ ☒ New weld	Cleaner	Magnaflux	SKC-S	N/A	21002K 002711	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	19G04K 01755	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	20L02U	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒ White		FC 150		(b) (4) Control # UV Meter ☐ N/A ☐

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

Performed By (b) (6) Level II Date: 6/27/2023

Reviewed By: Date:

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill	Page 2 of 2
P.O. No.:	Job No.: 23-034	
(b) (4) edure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS062723		

ITEM: Emergent Pipeline repair TK20

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: CS SW		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 MIN
Surface Condition: ☐ As Welded ☐ Ground ☐ Other ____ ☒ New weld	Cleaner	Magnaflux	SKC-S	N/A	21002K 002711	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	19G04K 01755	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	20L02U	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒ White		FC 150	(b) (4)	Control # UV Meter ☐ N/A ☐

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☐	☐	
	☐	☐	

Performed By: (b) (6) Level II Date: 6/27/2023

Reviewed By: Date:

(b) (4)

HYDROSTATIC TEST FORM

CLIENT (b) (4)

SYSTEM: (b) (3) (A)

Project Name: **Red Hill Emergent Pipeline**

System Description (b) (3) (A)

Starting poir

Connection Poir

Ending poir

PSI Req.: (b) (3) (A) Time Req.: 4 hours

Start of Test Period: Time: 7:00am Date: 26-May-23

End of Test Period: Time: 11:00am Date: 26-May-23

No.	Time	PSI READING	Remarks
1	7am	(b) (3) (A)	Initial Start No leaks detected
2	715am		
3	730am		
4	745am		Line bumped up to (b) (3) (A)
5	800am		line settling
6	815am		line settling
7	830am		line settling
8	845am		line settling
9	900am		Line settling
10	915am		Line settling
11	930am		Holding Pressure Steady
12	945am		
13	1000am		
14	1015am		
15	1030am		
16	1045am		
17	1100am		Finished Test, No leaks.

PSI Gauge Maufacturer: Ashcroft 0-600

Test Witness Client: (b) (6)

Test Witness (b) (4) Rep.:

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	023
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) PM.05
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	391	Tank Gallery	Tank 6

Repair Description	(b) (3) (A)	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. Socket welds inspected by PT, hydrostatically tested.	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: 30 JUN 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

Repairs 023 and 024

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
TANK 5&6 HIGH POINT VENT & EQUALIZATION LINE											
(b) (3) (A)	1	(b) (3) (A)	BW	VESSEL-O-LET	(b) (3) (A) PIPE RUN	(b) (6)	6/23/2023	CWI VT	(b) (6)	6/23/2023	PASSED
								RT		6/30/2023	PASSED
	2		BW	VESSEL-O-LET	WN Flange		6/14/2023	CWI VT			PASSED
								RT		6/30/2023	PASSED
	3		SW	RFSW FLANGE	PIPE		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	4		SW	PIPE	90* SW ELBOW		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	5		SW	90* SW ELBOW	PIPE		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	6		SW	PIPE	RFSW FLANGE		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	7		BW	RFSW FLANGE	PIPE		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	8		BW	PIPE	90* SW ELBOW		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	8a		BW	90* SW ELBOW	PIPE NIPPLE (TOE)		6/26/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	9		BW	(b) (3) PIPE RUN	VESSEL-O-LET		6/22/2023	CWI VT		6/22/2023	PASSED
								RT		6/30/2023	PASSED
	10		BW	VESSEL-O-LET	(b) (3) RFWN Flange		6/14/2023	CWI VT			PASSED
								RT		6/30/2023	PASSED
	10a		SW	(b) (3) RFSW Flange	PIPE		5/24/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	11		SW	PIPE	90* SW ELBOW		3/10/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	12		SW	90* SW ELBOW	PIPE		3/10/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	13		SW	PIPE	90* SW ELBOW		3/10/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	14		SW	90* SW ELBOW	PIPE		3/10/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	15		SW	PIPE	90* SW ELBOW		3/10/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	16		SW	90* SW ELBOW	PIPE		3/13/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	17		SW	PIPE	90* SW ELBOW		3/13/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	18		SW	90* SW ELBOW	PIPE		3/13/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	19		SW	PIPE	90* SW ELBOW		3/13/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	20		SW	90* SW ELBOW	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	21		SW	PIPE	SW TEE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	22		SW	SW TEE	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	23		SW	PIPE	(b) (3) RFSW Flange		3/6/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	24		SW	(b) (3) RFSW Flange	PIPE NIPPLE (TOE)		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	25		SW	SW TEE	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	26		SW	PIPE	(b) (3) RFSW Flange		3/6/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	27		SW	RFSW Flange	PIPE		3/6/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	28		SW	PIPE	SW TEE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	29		SW	SW TEE	PIPE		3/6/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	30		SW	SW TEE	PIPE		3/7/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	31		SW	PIPE	(b) (3) RFSW Flange		3/7/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	32		SW	RFSW Flange	PIPE NIPPLE (TOE)		3/7/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	33		SW	PIPE	SW TEE		3/7/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	34		SW	SW TEE	PIPE		3/7/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	35		SW	SW TEE	PIPE		3/7/2023	CWI VT			PASSED
								PT		5/1/2023	PASSED
	36		SW	PIPE	(b) (3) RFSW Flange		3/7/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED

Repairs 023 and 024

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE		NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)	37	(b) (3) (A)	SW	(b) (3) RFSW Flange	PIPE NIPPLE (TOE)	(b) (6)	3/7/2023		CWI VT	(b) (6)		PASSED
									PT		6/30/2023	PASSED
	38		SW	PIPE	90* SW ELBOW		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	39		SW	90* SW ELBOW	PIPE		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	40		SW	PIPE	90* SW ELBOW		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	41		SW	90* SW ELBOW	PIPE		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	42		SW	PIPE	90* SW ELBOW		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	43		SW	90* SW ELBOW	PIPE		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	44		SW	PIPE	90* SW ELBOW		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	45		SW	90* SW ELBOW	PIPE		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	46		SW	PIPE	90* SW ELBOW		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	47		SW	90* SW ELBOW	PIPE		6/27/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	48		SW	PIPE	90* SW ELBOW		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	49		SW	90* SW ELBOW	PIPE		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	50		SW	PIPE	90* SW ELBOW		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	51		SW	90* SW ELBOW	PIPE		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	52		SW	PIPE	90* SW ELBOW		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	53		SW	90* SW ELBOW	PIPE		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	54		SW	PIPE	(b) (3) RFSW Flange		6/28/2023		CWI VT			PASSED
									PT		6/30/2023	PASSED
	55		BW	VESSEL-O-LET	RFWN Flange		6/14/2023		CWI VT			PASSED
									RT		6/27/2023	PASSED
	56		BW	(b) (3) (A) PIPE RUN	VESSEL-O-LET		6/28/2023		CWI VT		6/28/2023	PASSED
									RT		6/30/2023	PASSED

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

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: G-SOC2723

Page 2 of 4

(b) (3) (A)

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
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	0	.020	X												
	60		X												
	120		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

(b) (3) (A)

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

6-29-2023

Date of Inspection

[redacted]

RADIOGRAPHIC INSPECTION REPORT

[redacted] W. O. No.: 23-034

Report No.: 6562723

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
[redacted]	1-2	.020	X												[redacted]
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

[redacted] Film Interpreter | II SNT-TC-1A Level | 6/30/23 Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GS627-23

(b) (3) (A)

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
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	0	.020	X												
	60		X												
	120		X												
	0	.020	X												
	60		X												
	120		X												

(b) (3) (A)

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

6/30/23

Date of Inspection

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1
P.O. No.:	Job No.: 23-121	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS042723		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC ≥100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	PT Inspection performed on 50% of the (b) (3) socket welds associated with 3 separate tanks equalizer piping system. No relevant indications noted. See Pictures and Drawings for Reference.
	☒	☐	
	☒	☐	

Performed By (b) (6)	Level II	Date: 05-01-23	Reviewed By:	Date:

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1 of 1
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS063023		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC >100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)			PT Inspection performed (b) (3) socket welds associated with tanks equalizer piping system and high point vents. No relevant indications noted. See Drawings for Reference.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

NOTE: (b) (3) (A)

Performed By (b) (6)	Level II	Date: 06-30-23	Reviewed By:	Date:

(b) (4)

HYDROSTATIC TEST FORM

CLIENT: (b) (4)

SYSTEM: (b) (3) (A)

Project Name: **Red Hill Emergent Pipeline Repair**

System Description: (b) (3) (A)

Starting point

Connection Point

Ending point

PSI Req.: (b) (3) (A) Time Req.: 4 hours

Start of Test Period: Time: 11:00 AM Date: 6-Jul-23

End of Test Period: Time: 3:00 PM Date: 6-Jul-23

No.	Time	PSI READING	Remarks
1	11:00AM	(b) (3) (A)	Initial Start No leaks
2	11:15AM		
3	11:30AM		
4	11:45AM		Slow drop in pressure, No leaks
5	12:00PM		
6	12:15PM		
7	12:30PM		
8	12:45PM		Drop in presure, No leaks
9	1:00PM		
10	1:15PM		
11	1:30PM		
12	1:45PM		
13	2:00PM		
14	2:15PM		Continued slow drop, No leaks
15	2:30PM		
16	2:45PM		
17	3:00PM		Pressure held, No leaks

PSI Gauge Maufacturer: Ashcroft 0-600

Test Witness Client: (b) (6)

Test Witness (b) (4) ep.:

(b) (4)

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
33805	Pressure Gauge
Serial Number	**Description**
03/29/2023	182,308
Calibration Date	**Test Number**
03/29/2024	
Recalibration Due	**Asset Number**
(b) (4)	23 °C / 43 % RH
Instrument Accuracy / Procedure	**Temperature** / **Humidity**

(b) (4)

Calibration Standards Used:

Equip #	Manufacturer	Description	Model	Serial	Date Calibrated	Date Due
(b) (4)		Standards on File			01/01/2023	01/01/2024

In Tolerance	**Certified By** (b) (6)
Condition Received	
In Tolerance	**QA Inspect**
Condition Returned	

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	024
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) M.06
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	391	Tank Gallery	Tank 6

Repair Description	(b) (3) (A)	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. Socket welds inspected by PT, hydrostatically tested.	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: 30 JUN 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

Repairs 023 and 024

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT		JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
TANK 5&6 HIGH POINT VENT & EQUALIZATION LINE												
(b) (3) (A)	1	(b) (3) (A)	BW	VESSEL-O-LET		(b) (3) (A) PIPE RUN	(b) (6)	6/23/2023	CWI VT	(b) (6)	6/23/2023	PASSED
									RT		6/30/2023	PASSED
	2		BW	VESSEL-O-LET		WN Flange		6/14/2023	CWI VT			PASSED
									RT		6/30/2023	PASSED
	3		SW	RFSW FLANGE		PIPE		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	6		SW	PIPE		RFSW FLANGE		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	7		BW	RFSW FLANGE		PIPE		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	8		BW	PIPE		90* SW ELBOW		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	8a		BW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/26/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	9		BW	(b) (3) PIPE RUN		VESSEL-O-LET		6/22/2023	CWI VT		6/22/2023	PASSED
									RT		6/30/2023	PASSED
	10		BW	VESSEL-O-LET		(b) (3) RFWN Flange		6/14/2023	CWI VT			PASSED
									RT		6/30/2023	PASSED
	10a		SW	(b) (3) RFSW Flange		PIPE		5/24/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	11		SW	PIPE		90* SW ELBOW		3/10/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	12		SW	90* SW ELBOW		PIPE		3/10/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	13		SW	PIPE		90* SW ELBOW		3/10/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	14		SW	90* SW ELBOW		PIPE		3/10/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	15		SW	PIPE		90* SW ELBOW		3/10/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	16		SW	90* SW ELBOW		PIPE		3/13/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	17		SW	PIPE		90* SW ELBOW		3/13/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	18		SW	90* SW ELBOW		PIPE		3/13/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	19		SW	PIPE		90* SW ELBOW		3/13/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	20		SW	90* SW ELBOW		PIPE		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	21		SW	PIPE		SW TEE		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	22		SW	SW TEE		PIPE		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	23		SW	PIPE		(b) (3) RFSW Flange		3/6/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	24		SW	(b) (3) RFSW Flange		PIPE NIPPLE (TOE)		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	25		SW	SW TEE		PIPE		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	26		SW	PIPE		(b) (3) FSW Flange		3/6/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	27		SW	RFSW Flange		PIPE		3/6/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	28		SW	PIPE		SW TEE		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	29		SW	SW TEE		PIPE		3/6/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	30		SW	SW TEE		PIPE		3/7/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	31		SW	PIPE		(b) (3) RFSW Flange		3/7/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED
	32		SW	(b) (3) FSW Flange		PIPE NIPPLE (TOE)		3/7/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	33		SW	PIPE		SW TEE		3/7/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	34		SW	SW TEE		PIPE		3/7/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	35		SW	SW TEE		PIPE		3/7/2023	CWI VT			PASSED
									PT		5/1/2023	PASSED
	36		SW	PIPE		(b) (3) RFSW Flange		3/7/2023	CWI VT			PASSED
									PT		6/30/2023	PASSED

Repairs 023 and 024

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)	37	(b) (3) (A)	SW	(b) (3) (A) RFSW Flange	PIPE NIPPLE (TOE)	(b) (6)	3/7/2023	CWI VT	(b) (6)		PASSED
								PT		6/30/2023	PASSED
	38		SW	PIPE	90* SW ELBOW		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	39		SW	90* SW ELBOW	PIPE		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	40		SW	PIPE	90* SW ELBOW		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	41		SW	90* SW ELBOW	PIPE		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	42		SW	PIPE	90* SW ELBOW		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	43		SW	90* SW ELBOW	PIPE		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	44		SW	PIPE	90* SW ELBOW		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	45		SW	90* SW ELBOW	PIPE		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	46		SW	PIPE	90* SW ELBOW		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	47		SW	90* SW ELBOW	PIPE		6/27/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	48		SW	PIPE	90* SW ELBOW		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	49		SW	90* SW ELBOW	PIPE		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	50		SW	PIPE	90* SW ELBOW		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	51		SW	90* SW ELBOW	PIPE		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	52		SW	PIPE	90* SW ELBOW		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	53		SW	90* SW ELBOW	PIPE		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	54		SW	PIPE	(b) (3) (A) RFSW Flange		6/28/2023	CWI VT			PASSED
								PT		6/30/2023	PASSED
	55		BW	VESSEL-O-LET	RFWN Flange		6/14/2023	CWI VT			PASSED
								RT		6/27/2023	PASSED
	56		BW	(b) (3) (A) IPE RUN	VESSEL-O-LET		6/28/2023	CWI VT		6/28/2023	PASSED
								RT		6/30/2023	PASSED

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

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: G-SOC2723

Page 2 of 4

(b) (3) (A)

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
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	0	.020	X												
	60		X												
	120		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

(b) (3) (A)

(b) (4)

Film Interpreter

II

SNT-TC-1A Level

6-29-2023

Date of Inspection

[redacted]

RADIOGRAPHIC INSPECTION REPORT

[redacted] W. O. No.: 23-034

Report No.: 6562723

Page 3 of 4

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
[redacted]	1-2	.020	X												[redacted]
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2.3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

[redacted] Film Interpreter | II SNT-TC-1A Level | 6/30/23 Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GS627-23

Page 4 of 4

(b) (3) (A)

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
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	0	.020	X												
	60		X												
	120		X												
	0	.020	X												
	60		X												
	120		X												

(b) (3) (A)

(b) (4)

(b) (4)

Film Interpreter

II

SNT-TC-1A Level

6/30/23

Date of Inspection

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1
P.O. No.:	Job No.: 23-121	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS042723		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC >100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)			PT Inspection performed on 50% of the (b) (3) (A) socket welds associated with 3 separate tanks equalizer piping system. No relevant indications noted. See Pictures and Drawings for Reference.
	☒	☐	
	☒	☐	
	☒	☐	

Performed By (b) (6)	Level II	Date: 05-01-23	Reviewed By:	Date:

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; Various Tanks	Page 1 of 1
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS063023		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC >100				(b) (4) Control # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)			PT Inspection performed 1" socket welds associated with tanks equalizer piping system and high point vents. No relevant indications noted. See Drawings for Reference.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

(b) (3) (A)

Performed By (b) (6)	Level II	Date: 06-30-23	Reviewed By:	Date:

[redacted]

HYDROSTATIC TEST FORM

CLIENT: [redacted]

SYSTEM: [redacted]

Project Name: **Red Hill Emergent Pipeline Repair**

System Description: [redacted]

Starting point

Connection Point

Ending point

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

Start of Test Period: Time: 11:00 AM Date: 6-Jul-23

End of Test Period: Time: 3:00 PM Date: 6-Jul-23

No.	Time	PSI READING	Remarks
1	11:00AM	[redacted]	Initial Start No leaks
2	11:15AM		
3	11:30AM		
4	11:45AM		Slow drop in pressure, No leaks
5	12:00PM		
6	12:15PM		
7	12:30PM		
8	12:45PM		Drop in presure, No leaks
9	1:00PM		
10	1:15PM		
11	1:30PM		
12	1:45PM		
13	2:00PM		
14	2:15PM		Continued slow drop, No leaks
15	2:30PM		
16	2:45PM		
17	3:00PM		Pressure held, No leaks

PSI Gauge Maufacturer: Ashcroft 0-600

Test Witness Client: [redacted]

Test Witness [redacted] Rep.: [redacted]

(b) (4)

(b) (4) Pg.1
1/1/15

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
33805	Pressure Gauge
Serial Number	**Description**
03/29/2023	182,308
Calibration Date	**Test Number**
03/29/2024	
Recalibration Due	**Asset Number**
(b) (4)	23 °C / 43 % RH
Instrument Accuracy / Procedure	**Temperature** / **Humidity**

(b) (4)

Calibration Standards Used:

Equip #	Manufacturer	Description	Model	Serial	Date Calibrated	Date Due
(b) (4)		Standards on File			01/01/2023	01/01/2024

(b) (6)

In Tolerance	**Certified By**
Condition Received	
In Tolerance	**QA Inspect**
Condition Returned	

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	026
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) M.11
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	392	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) (A)	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.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	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	14 JUL 2023

(b) (3) (A)

(b) (3) (A)

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

EMERGENT PIPELINE REPAIRS

REPAIR ID	ROOT PASS							COVER PASS									
(b) (3) (A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
			(b) (6)			(b) (6)		(b) (6)				(b) (6)				P	06 / 30 / 2023	(b) (6)
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	06 / 22 / 2023		06 / 22 / 2023	P		06 / 22 / 2023		06 / 22 / 2023	P	06 / 22 / 2023					P	06 / 30 / 2023	
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	06 / 22 / 2023		06 / 22 / 2023	P		06 / 22 / 2023		06 / 23 / 2023	P	06 / 23 / 2023					P	06 / 30 / 2023	
	ROOT PASS							r 26					COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	06 / 14 / 2023		06 / 14 / 2023	P		06 / 14 / 2023		06 / 14 / 2023	P	06 / 14 / 2023					P	06 / 30 / 2023	
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	04 / 25 / 2023		04 / 25 / 2023	P		04 / 25 / 2023		04 / 25 / 2023	P	04 / 25 / 2023					P	05 / 04 / 2023	
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
	P	04 / 24 / 2023		04 / 24 / 2023	P		04 / 24 / 2023		04 / 24 / 2023	P	04 / 24 / 2023					P	05 / 04 / 2023	

WELDERS - ID
(b) (6)

Repair 26

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT		JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)		(b) (3) (A)										
	1		BW	(b) (3) (A) Pipe	-	(b) (3) vessel-o-let	(b) (6)	6/14/2023	CWI VT	(b) (6)	6/14/2023	PASSED
									RT		6/30/2023	PASSED
	2		BW	(b) (3) (A) vessel-o-let	-	RFWN Flange		6/9/2023	CWI VT			PASSED
									RT		6/12/2023	PASSED
	3		SW	RFSW Flange		PIPE		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	6		SW	PIPE		90* SW ELBOW		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	7		SW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	1		BW	(b) (3) (A) Pipe	-	(b) (3) (A) vessel-o-let		6/16/2023	CWI VT		6/16/2023	PASSED
									RT		6/30/2023	PASSED
	2		BW	(b) (3) (A) vessel-o-let	-	RFWN Flange		6/9/2023	CWI VT			PASSED
									RT		6/12/2023	PASSED
	3		SW	SW FLG	-	PIPE		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	4		SW	PIPE		90* SW ELBOW		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	5		SW	90* SW ELBOW		PIPE		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	6		SW	PIPE		90* SW ELBOW		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	7		SW	90* ELBOW		PIPE NIPPLE (TOE)		6/28/2023	PT		6/30/2023	PASSED
	1		BW	(b) (3) (A) Pipe	-	(b) (3) (A) vessel-o-let		6/30/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	2		BW	(b) (3) vessel-o-let	-	RFWN Flange		6/30/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	3		SW	RFSW Flange		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	6		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	7		SW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	1		BW	(b) (3) (A) Pipe	-	(b) (3) (A) vessel-o-let		6/14/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	2		BW	(b) (3) vessel-o-let	-	RFWN Flange		6/15/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	3		SW	RFSW Flange		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	6		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	7		SW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	1		BW	(b) (3) (A) Pipe	-	(b) (3) vessel-o-let		6/14/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	2		BW	(b) (3) vessel-o-let	-	RFWN Flange		6/15/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	3		SW	RFSW Flange		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4) W. O. No.: 73-034
Report No.: GS5073
Date: 5/4/23
Page 1 of 3

FORM NDT-005.1

CUSTOMER (b) (4)		CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3	
PROJECT Red Hill Emergent pipeline		DWG. NO.	PROCEDURE NDT-016 REV C	ACC. PROC. B31.3 REV 2015	
RT SOURCE Ir 192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 3 / 1	THICKNES (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 30 sec	JOINT TYP
			LOCATION F	PROCESSING MANUAL / AUTOMATIC	PIPE DIA.

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"	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)	0-1	.020	X												(b) (3) (A)
	1-2		X												
	2-3		X												
	3-0		X												
	0-1	.020	X												
	1-2		X												
	2-3		X												
	3-0		X												
	0-1	.020	X												
	1-2		X												
	2-3		X												

(b) (6)

Radiographer	Date	Film Interpreter	SNT-TC-1A Level	Date of Inspection	Customer
			II	5/4/23	

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GS61223

Date: 6/12/23

Page 1 of 1

FORM NDT-005.1

CUSTOME (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT Red Hill emergent	DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015		
RT SOURCE Ir192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 6	THICK (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 1:15	JOINT
			LOCATION S	PROCESSING [X] MANUAL [ ] AUTOMATIC	PIPE D

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)	0	.020	X												
	60		X	/											
	120		X	/											
	0	.020	X												
	60		X	/											
	120		X	/											
	0	.020	X												
	60		X	/											
			X												

(b) (3) (A)

(b) (6)

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

Radiographer	Date	Film Interpreter	SNT-TC-1A Level	Date of Inspection	Customer
			II	6/12/23	

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: G-SOC2723

Page 2 of 4

(b) (3) (A)

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
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	0	.020	X												
	60		X												
	120		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

(b) (3) (A)

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

6-29-2023

Date of Inspection

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill	Page 2 of 3
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS062923		

ITEM: VSLT socket welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: CS FW		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 MIN
Surface Condition: ☐ As Welded ☐ Ground ☐ Other Weld Prep ☒ New weld	Cleaner	Magnaflux	SKC-S	N/A	21002K 002711	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	19G04K 01755	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	20L02U	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒ White		FC 150	(b) (4)	Control # UV Meter ☐ N/A ☐

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

Performed By (b) (6) Level III Date: 6/29/2023	Reviewed By: Date:

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
pair 26	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

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

(b) (4)

ULTRASONIC TESTING REPORT

Specification / Code: AWS D1.1
Procedure & Rev: NDT-005.6, Rev. A
Acceptance: AWS D1.1

TECHNIQUE

(b) (3) (A)

INSPECTION RESULTS

Location	DESCRIPTION	INSPECTION RESULTS
Red Hill	(b) (3) (A)	Accepted

REMARKS: See attached photos...

TECHNICIAN: (b) (6) — III — 04/27/2023

PRINT NAME | SIGNATURE | LEVEL | DATE

(b) (4)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	027
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) PM.19
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	(b) (4) 92	Tank Gallery	Tank 20

Repair Description	Dresser coupling may not have capacity to withstand surge load simil[illegible] and laterals to (b) (3) (A) appropriately). (continued in comments below).	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. Structural welds received 50% NDE MT or RT). Dresser coupling lug fillet welds received 100% Magnetic Particle 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: 28 JUN 2022		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Pages 2-3.	◉	Yes	○	No

Comments

Repair Description cont. "See (b) (4) recommendations if laterals to even numbered tanks are disconnected."

(b) (3) (A)

(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	14 JUL 2023

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

REPAIR ID	ROOT PASS							COVER PASS										
(b) (3) (A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
	p	03 / 15 / 2022	(b) (6)	03 / 15 / 2022	P	(b) (4)	03 / 16 / 2022	(b) (6)	03 / 16 / 2022	P	03 / 17 / 2022	(b) (6)	MT P	03 / 17 / 2022	(b) (6)	F	03 / 29 / 2022	(b) (6)
									05 / 03 / 2022	P	05 / 03 / 2022					P	05 / 16 / 2022	
													P	02 / 28 / 2023		Arc strike noted by EXWC		
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	
	P	03 / 17 / 2022		03 / 17 / 2022	P		03 / 17 / 2022		03 / 17 / 2022	P	03 / 18 / 2022		MT P	03 / 18 / 2022		F	03 / 29 / 2022	
									05 / 03 / 2022	P	05 / 03 / 2022					P	05 / 16 / 2022	
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	
	P	03 / 15 / 2022		03 / 15 / 2022	P		03 / 15 / 2022		03 / 15 / 2022	P	03 / 15 / 2022		MT P	03 / 15 / 2022		P	03 / 29 / 2022	
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	
	P	03 / 17 / 2022		03 / 17 / 2022	P		03 / 17 / 2022		03 / 17 / 2022	P	03 / 18 / 2022		MT P	03 / 18 / 2022		F	03 / 29 / 2022	
																P	05 / 16 / 2022	
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	
	P	03 / 09 / 2022		03 / 09 / 2022	P		03 / 09 / 2022		03 / 10 / 2022	p	03 / 10 / 2022		MT P	03 / 10 / 2022		F	03 / 30 / 2022	
									05 / 03 / 2022	P	05 / 04 / 2022					P	05 / 16 / 2022	
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	
	P	03 / 08 / 2022		03 / 08 / 2022	P		03 / 08 / 2022		03 / 08 / 2022	P	03 / 09 / 2022		MT P	03 / 09 / 2022		F	03 / 30 / 2022	
									05 / 03 / 2022	P	05 / 04 / 2022					P	05 / 16 / 2022	
	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
	N/A							(b) (6)	03 / 22 / 2022	P	03 / 25 / 2022	(b) (6)	P	03 / 25 / 2022	(b) (6)			
					TEMPORARY PIPING - NOT FOR FLUID USE - STRUCTURAL RESTRAINT ONLY														

air 19 - K.h

Repair 19 - K.h

REPAIR ID (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
N/A							(b) (6)	03 / 24 / 2022	P	03 / 25 / 2022	(b) (6)	P	03 / 25 / 2022	(b) (6)	P	03 / 30 / 2022	(b) (6)
				TEMPORARY PIPING - NOT FO				TRUCTURAL RESTRAINT ONLY									

ROOT PASS								COVER PASS									
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	
N/A								03 / 24 / 2022	P	03 / 25 / 2022					P	03 / 30 / 2022	
				TEMPORARY PIPING - NOT FO				TRUCTURAL RESTRAINT ONLY									

ROOT PASS								COVER PASS									
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
N/A								03 / 23 / 2022	P	03 / 25 / 2022		P	03 / 25 / 2022				
				TEMPORARY PIPING - NOT FO				TRUCTURAL RESTRAINT ONLY									

ROOT PASS								COVER PASS									
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
N/A								03 / 24 / 2022	P	03 / 25 / 2022		P	03 / 25 / 2022				
				TEMPORARY PIPING - NOT FO				TRUCTURAL RESTRAINT ONLY									

ROOT PASS								COVER PASS									
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
N/A								03 / 18 / 2022	P	03 / 18 / 2022		P	03 / 18 / 2022				
				TEMPORARY PIPING - NOT FO				TRUCTURAL RESTRAINT ONLY									

ROOT PASS								COVER PASS									
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
P	03 / 10 / 2022	(b) (6)	03 / 10 / 2022	P	(b) (4)	03 / 10 / 2022		03 / 10 / 2022	P	03 / 11 / 2022		P	03 / 11 / 2022		P	03 / 30 / 2022	(b) (6)

ROOT PASS								COVER PASS									
FITUP P/F	DATE		DATE	VT P/F	IN	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	IN
P	03 / 11 / 2022		03 / 11 / 2022	P		03 / 11 / 2022		03 / 11 / 2022	P	03 / 14 / 2022		P	03 / 14 / 2022		P	03 / 30 / 2022	

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

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No.: GS51622

Date: 5/16/22

Page 1 of 3

FORM ND1-905.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT Emergent Energy	DWG. NO.	PROCEDURE REV	ACC. PROC. B31.3 REV 2015		
RT SOURCE Ir192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 3	THICK (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 5:00	JOINT
			LOCATION F	PROCESSING [X] MANUAL [ ] AUTOMATIC	PIPE D

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)	0-14	.02w	X		/										
	42-0	/	X		/					/					
	28-42	.02w	X								/				
	14-28	.02w	X												
	28-42	/	X								/				
	24-36	.02w	X							/					
	12-24	.02w	X		/										

(b) (3) (A)

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

(b) (6) — 5/16/22 — Date

(b) (6) — II — SNT-TC-1A Level — 5/16/22 — Date of Inspection — Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No. GS033022

Date: 3-30-2022

Page 1 of 1

FORM NDT-005.1

CUSTOMER (b) (4)		CUST JOB#	SPECIFICATION AWS	ACCEPTANCE AWS D1.1	
PROJECT Emergency Pipeline Repair Ind.		DWG. NO.	PROCEDURE UDT006 REV C	ACC. PROC. D1.1 REV	
RT SOURCE TR197	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED .3	THICKN (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 2:00	JOINT T
			LOCATION F	PROCESSING ☒ MANUAL ☐ AUTOMATIC	PIPE DIA

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)	0-13	.020	X												(b) (3) (A)
	13-26		X												
	26-0		X												
	0-13	.020	X												
	13-26		X												
	26-0		X												

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

(b) (6)

Radiographer | Date | Film Interpreter

II
SNT-TC-1A Level

3/30/22
Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No. GS033022

Date: 3-30-2022

Page 1 of 1

FORM NDT-005.1

CUSTOMER (b) (4)		CUST JOB#	SPECIFICATION AWS	ACCEPTANCE AWS D1.1	
PROJECT Emergent Pipeline Repair Rd #1		DWG. NO.	PROCEDURE UDT006 REV C	ACC. PROC. D1.1 REV	
RT SOURCE TR197	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED .3	THICKN (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 2:00	JOINT T
			LOCATION F	PROCESSING ☒ MANUAL ☐ AUTOMATIC	PIPE DIA

WELD #	VIEW #	GEOMETRIC UNSHARPNESS "UG"	ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	I.I.	Film Artifact	REMARKS
(b) (3) (A)	0-13	.020	X												(b) (3) (A)
	13-26		X												
	26-0		X												
	0-13	.020	X												
	13-26		X												
	26-0		X												

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

(b) (6)

Radiographer | Date | Film Interpreter

II
SNT-TC-1A Level

3/30/22
Date of Inspection

Customer

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4) Project Number:	Pipe Size.	Contract No.:	Date Inspected:
9845.02	(b) (3) (A)	N39430-20-D2225 TO N3943021F4207	03/25/2022
Inspector/Engineer: (b) (6)		Level: II	

VISUAL INSPECTION (VT)

NDE Procedure No.:	Technique:	White Light Source:
(b) (4)	Direct	Flashlight

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☐ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4) Project Number:	Pipe Size:	Contract No.:	Date Inspected:
9845.02	(b) (3) (A)	N39430-20-D2225 TO N3943021F4207	03/18/2022
Inspector/Engineer: (b) (6)		Level: II	

VISUAL INSPECTION (VT)

NDE Procedure No.:	Technique:	White Light Source:
(b) (4)	Direct	Flashlight

MAGNETIC PARTICLE INSPECTION (MT)

NDE Procedure No.:	Visibility:	Technique:	Equipment S/N:	Method:
(b) (4)	Fluorescent	AC Yoke	N2090	Wet
Light Source: 64828		Material Type: Carbon Steel	Material Thickness: (b) (3) (A)	

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☒ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4) Project Number:	Pipe Size.	Contract No.:	Date Inspected:
9845.02	(b) (4)	N39430-20-D2225 TO N3943021F4207	03/25/2022
Inspector/Engineer: (b) (6)		Level: II	

VISUAL INSPECTION (VT)

NDE Procedure N (b) (4)	Technique:	White Light Source:
	Direct	Flashlight

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☐ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4)

Project Number:	Pipe Size.	Contract No.:	Date Inspected:
9845.02	(b) (4)	N39430-20-D2225 TO N3943021F4207	03/25/2022

Inspector/Engineer:	Level:
(b) (6)	II

VISUAL INSPECTION (VT)

NDE Procedure No	Technique:	White Light Source:
(b) (4)	Direct	Flashlight

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☐ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	029
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	(b) (4) M.21
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
(b) (4)	92	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) Dresser Coupling at (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. Blind flange spool final welds inspected by Magnetic Particle Inspection.	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			
○	Yes	◉	No	See Page 2.	○	Yes	◉	No

Comments

Repair Description cont. "See (b) (4) recommendations if (b) (3) (A)

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

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	02 / 28 / 2023	(b) (6)	P	03 / 07 / 2023	(b) (4)
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		N/A		
	P	06 / 06 / 2023		N/A		(b) (4)
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 15 / 2022	(b) (6)	N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		(b) (6)
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	06 / 21 / 2023		N/A		
	P	06 / 21 / 2023		N/A		
	P	06 / 21 / 2023		N/A		
	P	06 / 21 / 2023		N/A		

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

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

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

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4) Project Number:	Pipe Size:	Contract No.:	Date Inspected:
9845.02	(b) (3) (A)	N39430-20-D2225 TO N3943021F4207	11/28/2022
Inspector/Engineer: (b) (6)		Level: II	

VISUAL INSPECTION (VT)

NDE Procedure No.: (b) (4)	Technique:	White Light Source:
	Direct	Flashlight

MAGNETIC PARTICLE INSPECTION (MT)

NDE Procedure No.: (b) (4)	Visibility:	Technique:	Equipment S/N:	Method:
	Fluorescent	AC Yoke	N2090	Wet
Light Source: 64828		Material Type: Carbon Steel	Material Thickness: (b) (3) (A)	

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☒ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4)

Project Number:	Pipe Size.	Contract No.:	Date Inspected:
9845.02	(b) (3) (A)	N39430-20-D2225 TO N3943021F4207	11/28/2022

Inspector/Engineer:	Level:
(b) (6)	II

VISUAL INSPECTION (VT)

NDE Procedure No.:	Technique:	White Light Source:
(b) (4)	Direct	Flashlight

MAGNETIC PARTICLE INSPECTION (MT)

NDE [illegible] No.:	Visibility:	Technique:	Equipment S/N:	Method:
(b) (4)	Fluorescent	AC Yoke	N2090	Wet

Light Source:	Material Type:	Material Thickness:
64828	Carbon Steel	(b) (3) (A)

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☒ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	095
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.057
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	NDAA 52	Tank Gallery	Tanks 17-20

Repair Description	(b) (4) (continued in comments below).	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. Pipe butt welds 100% inspection via Radiographic Testing. Fillet welds on piping 100% inspection by VT and MT or PT.	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: 30 MAY 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Pages 2-3.	◉	Yes	○	No

Comments

(b) (3) (A)

Contractor fabricated and installed new support frames and low friction pipe supports, new HPV, repaired and provided new fire blankets on Dresser couplings. 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	14 JUL 2023

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

REPAIR ID	ROOT PASS							COVER PASS										
(b) (3) (A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
	N/A							(b) (6)	03 / 24 / 2022	P	03 / 25 / 2022	(b) (6)	P	03 / 25 / 2022	(b) (6)	P	03 / 30 / 2022	(b) (6)
					TEMPORARY PIPING - NOT FO				UCTURAL RESTRAINT ONLY									
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	IN	MT / PT P/F	DATE		RT P/F	DATE	
	N/A								03 / 24 / 2022	P	03 / 25 / 2022					P	03 / 30 / 2022	
					TEMPORARY PIPING - NOT FO				UCTURAL RESTRAINT ONLY									
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	IN	MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	N/A								03 / 23 / 2022	P	03 / 25 / 2022		P	03 / 25 / 2022				
					TEMPORARY PIPING - NOT FO				UCTURAL RESTRAINT ONLY									
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	IN	MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	N/A								03 / 24 / 2022	P	03 / 25 / 2022		P	03 / 25 / 2022				
					TEMPORARY PIPING - NOT FO				UCTURAL RESTRAINT ONLY									
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	IN	MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	N/A								03 / 18 / 2022	P	03 / 18 / 2022		P	03 / 18 / 2022				
					TEMPORARY PIPING - NOT FO				UCTURAL RESTRAINT ONLY									
	ROOT PASS							r 095 - K.d				COVER PASS						
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE	IN	MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	P	03 / 10 / 2022	(b) (6)	03 / 10 / 2022	P	(b) (4)	03 / 10 / 2022		03 / 10 / 2022	P	03 / 11 / 2022		P	03 / 11 / 2022		P	03 / 30 / 2022	(b) (6)
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE	IN	MT / PT P/F	DATE		RT P/F	DATE	
	P	03 / 11 / 2022		03 / 11 / 2022	P		03 / 11 / 2022		03 / 11 / 2022	P	03 / 14 / 2022		P	03 / 14 / 2022		P	03 / 30 / 2022	

Repair 095 - K.d

REPAIR ID	ROOT PASS							COVER PASS									
(b) (3) (A)	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
	P	05 / 12 / 2022		05 / 12 / 2023	P	(b) (6), (b) (4)	05 / 12 / 2023	(b) (6)	05 / 13 / 2023	P	05 / 13 / 2023	(b) (6)				P	05 / 16 / 2022	(b) (6)

ROOT PASS							COVER PASS									
FITUP P/F	DATE	WELDER	DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE
P	05 / 12 / 2022		05 / 12 / 2023	P		03 / 11 / 2022		03 / 11 / 2022	P	03 / 14 / 2022					P	05 / 16 / 2022

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
		(b) (6)	03 / 17 / 2022				SHOP WELD								P	03 / 30 / 2022

ROOT PASS						COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE
		03 / 16 / 2022				SHOP WELD								P	03 / 30 / 2022

ROOT PASS						COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE
		03 / 16 / 2022				SHOP WELD								P	03 / 30 / 2022

ROOT PASS						COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE
		03 / 17 / 2022				SHOP WELD								P	03 / 30 / 2022

ROOT PASS						COVER PASS									
FITUP P/F	DATE	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE
		03 / 15 / 2022				SHOP WELD								P	03 / 30 / 2022

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

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4) W. O. No.: 22-109

Report No.: GS033022

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)	0-12	.020	X												(b) (3) (A)
	12-24		X												
	24-36		X		/										
	36-0		X												
	0-12	.020	X												
	12-24		X												
	24-36		X												
	36-0		X												

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

3-30-2022

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No.: GS051622

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)	0-13	.020	X						/						T20
	13-26	|	X								/				
	26-0	|	X		/										
	0-13	.020	X												T20
	13-26	|	X												
	26-0	|	X												
	0-13	.020	X					/							
	13-26	|	X												
	26-0	|	X												
	0-14	.020	X												
	14-28	|	X												
	28-42	|	X												
	42-0	|	X												

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

5-16-2022

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-098

Report No.: GS 3822

Date: 3/18/22

Page 1 of 2

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3
PROJECT TK 20	DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015

RT SOURCE Ir192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS —	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 3	THICKNES (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 1:45	JOINT TYP
			LOCATION F	PROCESSING [X] MANUAL [ ] AUTOMATIC	PIPE DIA.

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
W5	0-13	.020	X		/										T20
	13-26		X												
	26-0		X		/										
W6	0-13	.020	X												T20
	13-26	/	X												
	26-0	/	X												
W7	0-13	.020	X		/										T20
	13-26	/	X												
	26-0	/	X												

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

(b) (6)

II

3/18/22

Radiographer | Date | Film Interpreter | NDT-TC-1A Level | Date of Inspection | Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4) W. O. No.: 22-098

Report No.: GS31822

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
W8	0-13	.020	X		/	/			/						T2e
	13-26	/	X												
	26-0	/	X		/										
W9	0-13	.020	X		X										T2e
	13-26	/	X												
	26-0	/	X												

(b) (6)

Film Interpreter

H

ANT-TC-1A Level

3/18/22

Date of Inspection

(b) (4)

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

Project Number:	Pipe Size.	Contract No.:	Date Inspected:
9845.02	(b) (3) (A)	N39430-20-D2225 TO N3943021F4207	05/25/2022

Inspector/Engineer:	Level:
(b) (6)	II

VISUAL INSPECTION (VT)

NDE Procedure No.:	Technique:	White Light Source:
(b) (4)	Direct	Flashlight

MAGNETIC PARTICLE INSPECTION (MT)

NDE Procedure No.:	Visibility:	Technique:	Equipment S/N:	Method:
(b) (4)	Fluorescent	AC Yoke	N0028	Wet

Light Source:	Material Type:	Material Thickness:
64828	Carbon Steel	(b) (3) (A)

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☒ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

EMERGENT PIPELINE REPAIRS

REPAIR ID (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
FILLET WELD							(b) (6)	05 / 06 / 2022	F	05 / 09 / 2022	(b) (6)						
								05 / 10 / 2022	P	05 / 10 / 2022							
								STRUCTURAL WELD									

ROOT PASS							COVER PASS											
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	05 / 05 / 2022	(b) (6)	05 / 05 / 2022	P	(b) (6)	05 / 05 / 2022		05 / 05 / 2022	P	05 / 05 / 2022					P	05 / 16 / 2022	(b) (6)
								STRUCTURAL WELD									

ROOT PASS							COVER PASS											
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
FILLET WELD								05 / 06 / 2022	F	05 / 09 / 2022							
								05 / 10 / 2022	P	05 / 10 / 2022							
								STRUCTURAL WELD									

ROOT PASS							COVER PASS											
FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR
P	05 / 10 / 2022	(b) (6)	05 / 10 / 2022	P	(b) (6)	05 / 11 / 2022		05 / 11 / 2022	P	05 / 11 / 2022					P	05 / 16 / 2022	(b) (6)

ROOT PASS							COVER PASS											
FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
P	05 / 10 / 2022		05 / 10 / 2022	P		05 / 11 / 2022		05 / 11 / 2022	P	05 / 11 / 2022					P	05 / 16 / 2022	

ROOT PASS							COVER PASS											
FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
P	05 / 17 / 2022		05 / 17 / 2022	P		05 / 18 / 2022		05 / 18 / 2022	P	05 / 19 / 2022					P	05 / 24 / 2022	

ROOT PASS							COVER PASS											
FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
P	05 / 19 / 2022		05 / 19 / 2022	P		05 / 19 / 2022		05 / 19 / 2022	P	05 / 19 / 2022					P	05 / 24 / 2022	

pair 095 - K.e

Repair 095 - K.e

REPAIR ID	ROOT PASS							COVER PASS										
(b) (3) (A) [redacted]	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	[redacted]	05 / 20 / 2022	P	(b) (6) [redacted]	05 / 20 / 2022	(b) (6) [redacted]	05 / 20 / 2022	P	05 / 23 / 2022	(b) (6) [redacted]				P	05 / 24 / 2022	(b) (6) [redacted]
	ROOT PASS							COVER PASS										
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	
								SHOP WELD								P	05 / 24 / 2022	
	ROOT PASS							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) [redacted]	05 / 31 / 2022	P	05 / 31 / 2022	(b) (6) [redacted]	P	05 / 31 / 2022	(b) (6) [redacted]			
									STRUCTURAL WELD									
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	FILLET WELD								05 / 31 / 2022	P	05 / 31 / 2022		P	05 / 31 / 2022				
									STRUCTURAL WELD									
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	FILLET WELD								05 / 24 / 2022	P	05 / 25 / 2022		P	05 / 25 / 2022				
									STRUCTURAL WELD									
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	FILLET WELD								05 / 24 / 2022	P	05 / 25 / 2022		P	05 / 25 / 2022				
									STRUCTURAL WELD									
	ROOT PASS												COVER PASS					
	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR
	FILLET WELD								05 / 24 / 2022	P	05 / 25 / 2022		P	05 / 25 / 2022				
									STRUCTURAL WELD									

EMERGENT PIPELINE REPAIRS

Repair 095 - K.e

REPAIR ID	ROOT PASS							COVER PASS										
(b) (3) (A) [redacted]	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) [redacted]	05 / 24 / 2022	P	05 / 25 / 2022	(b) (6) [redacted]	P	05 / 25 / 2022	(b) (6) [redacted]			
									STRUCTURAL WELD									

REPAIR ID	ROOT PASS							COVER PASS										
[redacted]	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	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	(b) (6) [redacted]
																P	04 / 04 / 2022	

REPAIR ID	ROOT PASS							COVER PASS										
[redacted]	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	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	(b) (6) [redacted]
																P	04 / 04 / 2022	

REPAIR ID	ROOT PASS							COVER PASS										
[redacted]	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	[redacted]
	SHOP WELD								02 / 05 / 2022							P	04 / 05 / 2022	
																P	04 / 04 / 2022	

REPAIR ID	ROOT PASS							COVER PASS										
[redacted]	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	[redacted]
	SHOP WELD								02 / 05 / 2022							P	04 / 05 / 2022	
																P	04 / 04 / 2022	

REPAIR ID	ROOT PASS							COVER PASS										
[redacted]	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	[redacted]
	SHOP WELD								02 / 05 / 2022							P	04 / 05 / 2022	
																P	04 / 04 / 2022	

REPAIR ID	ROOT PASS							COVER PASS										
[redacted]	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	[redacted]
	P	01 / 10 / 2023		01 / 11 / 2023	P	(b) (6) [redacted]	01 / 11 / 2023		01 / 12 / 2023	P	01 / 12 / 2023	(b) (6) [redacted]			(b) (6) [redacted]	P	02 / 07 / 2023	
													P	02 / 28 / 2023		rc strike noted by EXWC		

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

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

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-169

Report No.: GS52422

Date: 5-24-22

Page 1 of 2

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT TK 18 piping	DWG. NO.	PROCEDURE NDT. 006 REV C	ACC. PROC B31.3 REV 205		
RT SOURCE IR192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS -	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 3	THICKN (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 5:50	JOINT T
			LOCATION F	PROCESSING ☒ MANUAL ☐ AUTOMATIC	PIPE DIA

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
W18-1	0-12		X		/										T18 ITEM E
	12-24		X	/	/										
	24-36		X								/				
	36-0		X												
W18-2	0-12		X												T18 ITEM E
	12-24		X												
	24-36		X												
	36-0		X												

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

(b) (6)

II — NT-TC-1A Level

5-24-22 — Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 22-109

Report No.: G5524/22

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
W18-3	0-13		X						✓					12"	T18 ITEM E
	13-26		X	✓											
	26-0		X						✓						
W18-4	0-13		X											12"	T18 ITEM E
	13-26		X					✓							
	26-0		X	✓											

(b) (6)

II

Film Interpreter

SNT-TC-1A Level

5/24/22

Date of Inspection

(b) (4)

NDE INSPECTION REPORT – RED HILL EMERGENT REPAIR

(b) (4)	Pipe Size: (b) (4)	Contract No.: N39430-20-D2225 TO N3943021F4207	Date Inspected: 05/25/2022
Inspector/Engineer: (b) (6)		Level: II	

VISUAL INSPECTION (VT)

NDE Procedure No.: (b) (4)	Technique: Direct	White Light Source: Flashlight

MAGNETIC PARTICLE INSPECTION (MT)

NDE P (b) (4)	Visibility: Fluorescent	Technique: AC Yoke	Equipment S/N: N0028	Method: Wet
Light Source: 64828		Material Type: Carbon Steel	Material Thickness: (b) (3) (A)	

INSPECTION RECORD

Location ID	Photo	Inspection Performed and Status (Accept / Reject)
(b) (3) (A)		☒ VT ☒ MT ☒ Accept ☐ Reject Rejected Inspection: N/A

☐ Initial ☐ Root Pass ☒ Final ☐ Repair

Notes: Click or tap here to enter text.

(b) (4)

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

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 15 / 2022	(b) (6)	N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	11 / 22 / 2022		P	11 / 22 / 2022	(b) (6)
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	11 / 22 / 2022		P	11 / 22 / 2022	
	P	06 / 21 / 2023		N/A		
	P	06 / 21 / 2023		N/A		
	P	06 / 21 / 2023		N/A		
	P	06 / 21 / 2023		N/A		

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	244
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	EPRC.K.u
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Enginee	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAA Page 48 & 76	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) (A)	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. Socket welds inspected via VT/PT.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Contractor removed threaded high point vent assembly. Replaced pipe connection with butt welded insert type vessolet. Small bore piping connections socket welded to and through flanges for new ball valve. Threaded end cap installed.

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	14 JUL 2023

(b) (3) (A)

WELDERS - ID

(b) (6)

WELD INFORMATION									INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT		JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)	1	(b) (3) (A)	BW	16" Pipe	-	2" vessel-o-let	(b) (6)	6/14/2023	CWI VT	(b) (6)	6/14/2023	PASSED
									RT		6/30/2023	PASSED
	2		BW	2" vessel-o-let	-	2" RFWN Flange		6/9/2023	CWI VT			PASSED
									RT		6/12/2023	PASSED
	3		SW	2" RFSW Flange		PIPE		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	6		SW	PIPE		90* SW ELBOW		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	7		SW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/22/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
				Repair 244								
	1		BW	18" Pipe	-	1" vessel-o-let		6/16/2023	CWI VT		6/16/2023	PASSED
									RT		6/30/2023	PASSED
	2		BW	1" vessel-o-let	-	1" RFWN Flange		6/9/2023	CWI VT			PASSED
									RT		6/12/2023	PASSED
	3		SW	SW FLG	-	PIPE		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	4		SW	PIPE		90* SW ELBOW		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	5		SW	90* SW ELBOW		PIPE		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	6		SW	PIPE		90* SW ELBOW		6/28/2023	PT		6/30/2023	PASSED
												PASSED
	7		SW	90* ELBOW		PIPE NIPPLE (TOE)		6/28/2023	PT		6/30/2023	PASSED
	1		BW	12" Pipe	-	1" vessel-o-let		6/30/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	2		BW	1" vessel-o-let	-	1" RFWN Flange		6/30/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	3		SW	1" RFSW Flange		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	6		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	7		SW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	1		BW	12" Pipe	-	1" vessel-o-let		6/14/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	2		BW	1" vessel-o-let	-	1" RFWN Flange		6/15/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	3		SW	1" RFSW Flange		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	4		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	5		SW	90* SW ELBOW		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	6		SW	PIPE		90* SW ELBOW		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	7		SW	90* SW ELBOW		PIPE NIPPLE (TOE)		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED
	1		BW	12" Pipe	-	1" vessel-o-let		6/14/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	2		BW	1" vessel-o-let	-	1" RFWN Flange		6/15/2023	CWI VT			PASSED
									RT		7/5/2023	PASSED
	3		SW	1" RFSW Flange		PIPE		6/21/2023	CWI VT			PASSED
									PT		6/29/2023	PASSED

(b) (3) (A)

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: G-SOC2723

Page 2 of 4

(b) (3) (A)

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
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	0	.020	X												
	60		X												
	120		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												
	1-2	.020	X												
	2-3		X												
	3-4		X												
	4-1		X												

(b) (3) (A)

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

6-29-2023

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: GS61223

Date: 6/12/23

Page 1 of 1

FORM NDT-005.1

CUSTOME (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3	
PROJECT Rel H.U emergent	DWG. NO.	PROCEDURE MT006 REV C	ACC. PROC. B31.3 REV 2013	
RT SOURCE Ir192 FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
(b) (3) (A)		TYPE 1B	TECHNIQUE USED 6	THICK (b) (3) (A)
		MATERIAL SS	EXPOSURE TIME 1:15	JOINT
		LOCATION S	PROCESSING [X] MANUAL [ ] AUTOMATIC	PIPE D

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)	0	.020	X												(b) (3) (A)
	60		X	/											
	120		X	/											
	0	.020	X												
	60		X												
	120		X	/											
	0	.020	X												
	60		X	/											
	120		X												

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

(b) (6)

II — SNT-TC-1A Level

6/12/23 — Date of Inspection

Customer

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client (b) (4)	Location: Red Hill; Various Tanks	Page 1 of 1
P.O. No.:	Job No.: 23-034	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS063023		

ITEM: Various Tank Piping Socket Welds

MATERIAL		PENETRANT MATERIAL				TECHNIQUE
TYPE: Carbon Steel		BRAND	DESIGNATION	PO#	BATCH #	Preclean Drying Time: 5 Minutes
Surface Condition: ☒ As Welded ☒ Ground / Buffed ☐ Other _____ ☒ New weld	Cleaner	Magnaflux SpotCheck	SKC-S	N/A	19L06K	Method of Application: Brush
	Penetrant	Magnaflux SpotCheck	SKL-SP1	N/A	09L19K	Dwell Time: 15 Minutes
	Emulsifier	N/A	N/A	N/A		Emulsification Time: N/A
	Developer	Magnaflux SpotCheck	SKD-S2	N/A	09L01K	Developing Time: 15 Minutes
Temperature: 60° F – 125° F Other _____		Illumination: ☒ White FC ≥100				(b) (4) ontrol # UV Meter _____ N/A X

Item(s)	Accept	Reject	Sketch/Notes
(b) (3) (A)			(b) (3) (A)
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

Performed By (b) (6)	Level II	Date: 06-30-23	Reviewed By:	Date:

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	250
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSAR.02
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
Stress Analysis	Page 16 (b) (4) Pg. 337 & 389	Tank Gallery	Tank (b) (4)

Repair Description	Mitigate overstress at (b) (3) (A) Provide a new pipe support in accordance with recommendation in Pipeline Stress Analysis and Structural Evaluation Report dated Sep 2022. [PSAR.02]	Source Contract Reference	N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in CQCP. Visual inspection and Magnetic Particle Inspection (MT) was performed on the structural welds IAW AWS D1.1 code, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Contractor installed new concrete pedestal with embedded anchors for steel beam column support. between Pipe Support (b) (3) (A) Beams support welded to existing structural member. Visual inspection and MT was performed on the structural welds IAW AWS D1.1 code, 50% random.

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	02 / 28 / 2023	(b) (6)	P	03 / 07 / 2023	(b) (4)
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		N/A		
	P	06 / 06 / 2023		N/A		
	P	06 / 06 / 2023		P	06 / 26 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; JBPHH	Date: 06-30-2023
P.O. No.: NA	Job No. 23-034	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS06302023		

MATERIAL

Type: C/S

Thickness: STD

Geometry:

☐ Pipe ☒ Plate ☐ Rod

☐ Other: _____

Item: Repairs on Pipe Supports

Stage of Mfg.: New

Surface Condition: Buffed Clean

MAGNETIZING TECHNIQUE

Prod: ☒ AC ☐ DC Spac (b) (3) (A)

Amps fixed Coil Dia. _____

Longitudinal Turns n/a Amp Turns _____

Direct n.a

Circular n/a

Central Conductor n/a

Amps n/a

Inspection Medium ☒ Dry Powder Color: RED

☐ Wet Visible Type Batch No.: 22A006

Illumination ☒ White ☐ Ultraviolet

MAGNETIZING EQUIPMENT

Mfg.: Parker Serial #: 23962

Calibration Date 06/01/2023

Field Verification By: Pie Gauge

UV Meter: n/a

MODEL: n/a Serial #: n/a

Item(s)	Accept	Reject	Item(s)	Accept	Reject
Pipe Supports/Braces					
(b) (3) (A)	☒	☐			
	☒	☐			
	☒	☐			
	☒	☐			
	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on Repairs made on Pipe Supports.

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 06/30/2023 Reviewed By: Date: Page 1 of 1

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	251
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSAR.08
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
Stress Analysis	22	Tank Gallery	(b) (3) (A)

Repair Description	(b) (4) in accordance with recommendation in Pipeline Stress Analysis and Structural Evaluation Report dated Sep 2022. (See Comments).	Source Contract Reference	N3943020D2225 N3943021F4207
Description of Contractor QC Method(s) Used	Methods outlined in CQCP. Visual inspection and Magnetic Particle Inspection (MT) was performed on the structural welds IAW AWS D1.1 code, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

Insets photos of pipe support numbers provided for clarity.
Visual inspection and MT was performed on the structural welds IAW AWS D1.1 code, 50% random.

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	14 JUL 2023

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
ir 251	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	02 / 28 / 2023	(b) (6)	P	03 / 07 / 2023	(b) (4)
Repair 251	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 06 / 2023		N/A		
	P	06 / 06 / 2023		N/A		
	P	06 / 06 / 2023		P	06 / 26 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 26 / 2023	
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		
	P	06 / 15 / 2022		N/A		

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

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

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; JBPHH	Date: 03-07-2023
P.O. No.: NA	Job No. 23-088	
(b) (4) rocedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS03072023		

MATERIAL

Type: C/S

Thickness: STD

Geometry:

☐ Pipe ☒ Plate ☐ Rod

☐ Other: _____

Item: New Pipe Support Angle Braces

Stage of Mfg.: New

Surface Condition: Buffed Clean

MAGNETIZING TECHNIQUE

Prod: ☒ AC ☐ DC Spacing (b) (3) (A)

Amps fixed Coil Dia. _____

Longitudinal Turns n/a Amp Turns _____

Direct n.a

Circular n/a

Central Conductor n/a

Amps n/a

Inspection Medium ☒ Dry Powder Color: RED

☐ Wet Visible Type Batch No.: 22A006

Illumination ☒ White ☐ Ultraviolet

MAGNETIZING EQUIPMENT

Mfg.: Parker Serial #: 23962

Calibration Date 01/01/2023

Field Verification By: Pie Gauge

UV Meter: n/a

MODEL: n/a Serial #: n/a

Item(s)	Accept	Reject	Item(s)	Accept	Reject
(b) (3) (A)					
	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on 50% (picked at random) Pipe Support (b) (3) (A)

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 03/14/2023 Reviewed By: Date: Page 1 of 1

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	252
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSAR.09
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
Stress Analysis	23	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) (A)	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, 50% random.	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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
r 252	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

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

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client (b) (4)	Location: Red Hill; JBPHH	Date: 04-27-2023
P.O. No.: NA	Job No. 23-121	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS04272023		

MATERIAL	MAGNETIZING TECHNIQUE	MAGNETIZING EQUIPMENT
Type: C/S	Prod: ☒ AC ☐ DC Spacin (b) (3) (A)	Mfg.: Parker Serial #: 23962
Thickness: STD	Amps fixed Coil Dia. ____	Calibration Date 04/01/2023
Geometry: ☐ Pipe ☒ Plate ☐ Rod ☐ Other: ____	Longitudinal Turns n/a Amp Turns ____	Field Verification By: Pie Gauge
	Direct n.a	
	Circular n/a	UV Meter: n/a
Item: Repairs on Pipe Supports	Central Conductor n/a	MODEL: n/a Serial #: n/a
	Amps n/a	
Stage of Mfg.: New	Inspection Medium ☒ Dry Powder	Color: RED
	☐ Wet Visible	Type Batch No.: 22A006
Surface Condition: Buffed Clean	Illumination ☒ White ☐ Ultraviolet	

Item(s)	Accept	Reject	Item(s)	Accept	Reject
Pipe Supports/Braces					
(b) (3) (A)	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on 50% (welds were picked at random)

(b) (3) (A)

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 05/01/2023 Reviewed By: Date:

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	253
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	PSAR.11
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	14 JUL 2023
QV Enginee	(b) (7)(A)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
Stress Analysis	24	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) (A) recommendation in Pipeline Stress Analysis and Structural Evaluation Report dated Sep 2022. [PSAR.11]	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, 50% random.	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. 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			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

Visual inspection was performed on the structural welds IAW AWS D1.1 code, 50% random.

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	14 JUL 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS
STRUCTURAL WELD LOG

LOCATION / REPAIR ID	VT P/F	FINAL ACCEPTANCE DATE	INSPECTOR	MT / PT / UT P/F	DATE	INSPECTOR
(b) (3) (A)	P	06 / 06 / 2023	(b) (6)	P	06 / 27 / 2023	(b) (4)
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	04 / 07 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	04 / 14 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
ir 253	P	03 / 22 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 28 / 2023		P	04 / 27 / 2023	
	P	03 / 29 / 2023		P	04 / 27 / 2023	
	P	03 / 30 / 2023		P	04 / 27 / 2023	
	P	03 / 23 / 2023		P	04 / 27 / 2023	
	P	03 / 24 / 2023		P	04 / 27 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	06 / 06 / 2023		P	06 / 30 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	03 / 20 / 2023		P	04 / 27 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	
	P	02 / 28 / 2023		P	03 / 07 / 2023	

VISUAL INSPECTIONS PERFORMED BY AWS-CWI
NDE PERFOMED BY ASNT LEVEL II PERSONNEL

(b) (4)

MAGNETIC PARTICLE EXAMINATION RECORD

Client: (b) (4)	Location: Red Hill; JBPHH	Date: 04-27-2023
P.O. No.: NA	Job No. 23-121	
(b) (4) Procedure: NDT 003.2 revD	Code: AWS D1.1	
Report No.: KS04272023		

MATERIAL	MAGNETIZING TECHNIQUE	MAGNETIZING EQUIPMENT
Type: C/S	Prod: ☒ AC ☐ DC Spacing (b) (3) (A)	Mfg.: Parker Serial #: 23962
Thickness: STD	Amps fixed Coil Dia. ____	Calibration Date 04/01/2023
Geometry: ☐ Pipe ☒ Plate ☐ Rod ☐ Other: ____	Longitudinal Turns n/a Amp Turns ____	Field Verification By: Pie Gauge
	Direct n.a	
	Circular n/a	UV Meter: n/a
Item: Repairs on Pipe Supports	Central Conductor n/a	MODEL: n/a Serial #: n/a
	Amps n/a	
Stage of Mfg.: New	Inspection Medium ☒ Dry Powder	Color: RED
	☐ Wet Visible	Type Batch No.: 22A006
Surface Condition: Buffed Clean	Illumination ☒ White ☐ Ultraviolet	

Item(s)	Accept	Reject	Item(s)	Accept	Reject
Pipe Supports/Braces (b) (3) (A)	☒	☐			

Sketch/Notes

MT Inspection was requested and performed on 50% (welds were picked at random).

(b) (3) (A)

No relevant indications were found during this inspection.

Performed By: (b) (6) Date 05/01/2023 Reviewed By: Date: