Joint Task Force-Red Hill

Bi-Monthly Quality Validation Working Group Meeting

10 Aug 2023

As of 10 1000W AUG 23

BACKGROUND/DESCRIPTION

ENSURING A FREE AND OPEN INDO-PACIFIC

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

RFI from DOH

ENSURING A FREE AND OPEN INDO-PACIFIC

- Repairs 182-184, 188 hydrostatic test updates, still Aug. 11 delivery?
- INC28 - report mislabeled as 28 instead of INC-028
- 183 & 188 - reports don't indicate that structural welds passed
- Repair 249 QV status update -
- Update to est. delivery of INC25, INC27-INC31, INC44
  - INC-025: FOR line painting - non-repair, determination by Closure – 17 Aug
  - INC-026 rev: HPV, pending hydrotest report – 11 Aug
  - INC-027: AFFF sump testing – 31 Aug
  - INC-028: AFFF retention line repairs – 10 Aug
  - INC-029: AFFF cross connect to (b) (3) (A) – 10 Oct
  - INC-030: AFFF LPD – 10 Aug
  - INC-031: (b) (3) (A) Aug
  - INC-033 rev: HPV and LPD to existing spool – 10 Aug
  - INC-044: (b) (3) (A) cross over vent – 24 Aug

QV Accounting

ENSURING A FREE AND OPEN INDO-PACIFIC

- QV Complete = Sent to DOH/EPA.
  - "253" = 248/253 repairs; 5 remain.
  - "INC" = 37/44; 7 remain.
- QV Conditionally Approved
  - DOH = 248/253, 37/37 Incremental
  - EPA = 248/253, 15/37 Incremental

Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
182	Repair Description Cont.: "The (b) (3) (A) side of the bulkhead has a half sleeve (b) (3) (A) to eliminate the non-standard repair in the bulkhead. The piping will need to be re-anchored. Replace piping through bulkhead." (b) (3) (A) Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) reducers to the (b) (3) (A), sleeved the (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flange set. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve. NDE result table, NDE inspection report, weld map/design detail, hydrotest result included for reference.	8 Aug 23	(b) (3) (A)
183	At bulkhead penetration (b) (3) (A), Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) reducers to the mainline, sleeved the (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flanged spool on the (b) (3) (A) side of the repair. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve. NDE result table, NDE inspection report, weld map/design detail and hydrotest result included for reference.	8 Aug 23	

Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
184	At bulkhead penetration (b) (3) (A), Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) reducers to the mainline, sleeved the (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flanged spool on the (b) (3) (A) side of the repair. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve. NDE result table, NDE inspection report, weld map/design detail, and hydrotest result included for reference.	8 Aug 23	(b) (3) (A)
188	At bulkhead penetration (b) (3) (A), Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) reducers to the mainline, sleeved the (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flanged spool on the (b) (3) (A) side of the repair. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve. NDE result table, NDE inspection report, weld map/design detail, and hydrotest result included for reference.	8 Aug 23	

Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
249	At bulkhead penetration (b) (3) (A) Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) reducers to the mainline, sleeved the (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flange. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve. NDE result table, NDE inspection report, weld map/design detail and hydrotest result included for reference.	8 Aug 23	(b) (3) (A)
INC -028	In-house labor applied (b) (3) (A) caulking at every PVC joint along the entire length of the (b) (3) (A) e. Corroded pipe hangers were replaced in-kind, with plumber's wrap added for corrosion protection. Belly pump replaced; additional electrical repairs were identified in operational testing. Follow-on electrical repairs completed.	8 Aug 23	
INC -030	Repair completed as a 2-step process. The broken PVC low point drain was first plugged with a mechanical compression plug rated for (b) (3) (A) psi of pressure. The assembly was then encased with a solvent-glued PVC coupler to the valve body, reinforced with a compression boot for impact protection. A threaded drip cap was installed to facilitate inspection. Reflective warning signs were secured to the assembly for awareness.	8 Aug 23	

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	182
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.14
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	11 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	73	HT	(b) (3) (A)

Repair Description	Non-standard repair at bulkhead. Pipe is anchored to the bulkhead using welded collars inside cast in place concrete. There is a repair sleeve through the bulkhead. The (b) (3) (A) side of the bulkhead has a full encirclement sleeve. (See Comments).	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; 100% VT on all shear lug assemblies, 100% PT on (b) (3) (A) (b) (3) (A) bulkhead assemblies to exceed cumulative 50% requirement. Hydrotest of spool assembly.	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. (b) (3) (A) side of the bulkhead has a half sleeve (b) (3) (A) pup to eliminate the non-standard repair in the bulkhead. The piping will need to be re-anchored. Replace piping through bulkhead." At bulkhead penetration between (b) (3) (A) Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) reducers to the mainline, sleeved the (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flange set. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve. NDE result table, NDE inspection report, weld map/design detail, hydrotest result 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	11 AUG 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

Repair 182

REPAIR ID		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	04 / 07 / 2023	(b) (6)	04 / 07 / 2023	P	(b) (6)	04 / 07 / 2023	(b) (6)	04 / 07 / 2023	P	04 / 07 / 2023	(b) (6)				P	04 / 17 / 2023	(b) (6)	N/A	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	04 / 10 / 2023		04 / 10 / 2023	P		04 / 10 / 2023		04 / 12 / 2023	P	04 / 12 / 2023					P	04 / 17 / 2023		N/A	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	04 / 07 / 2023		04 / 07 / 2023	P		04 / 07 / 2023		04 / 07 / 2023	P	04 / 07 / 2023					P	04 / 17 / 2023		N/A	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 30 / 2023		03 / 30 / 2023	P		03 / 30 / 2023		03 / 30 / 2023	P	03 / 30 / 2023					P	04 / 17 / 2023		N/A	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	04 / 13 / 2023		04 / 13 / 2023	P		04 / 13 / 2023		04 / 13 / 2023	P	04 / 13 / 2023					P	04 / 17 / 2023		P	08 / 08 / 2023
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	04 / 12 / 2023		04 / 12 / 2023	P		04 / 12 / 2023		04 / 12 / 2023	P	04 / 12 / 2023					P	04 / 17 / 2023		P	08 / 08 / 2023
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	04 / 06 / 2023		04 / 06 / 2023	P		04 / 06 / 2023		04 / 06 / 2023	P	04 / 06 / 2023					P	04 / 17 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	

EMERGENT PIPELINE REPAIRS

Repair 182

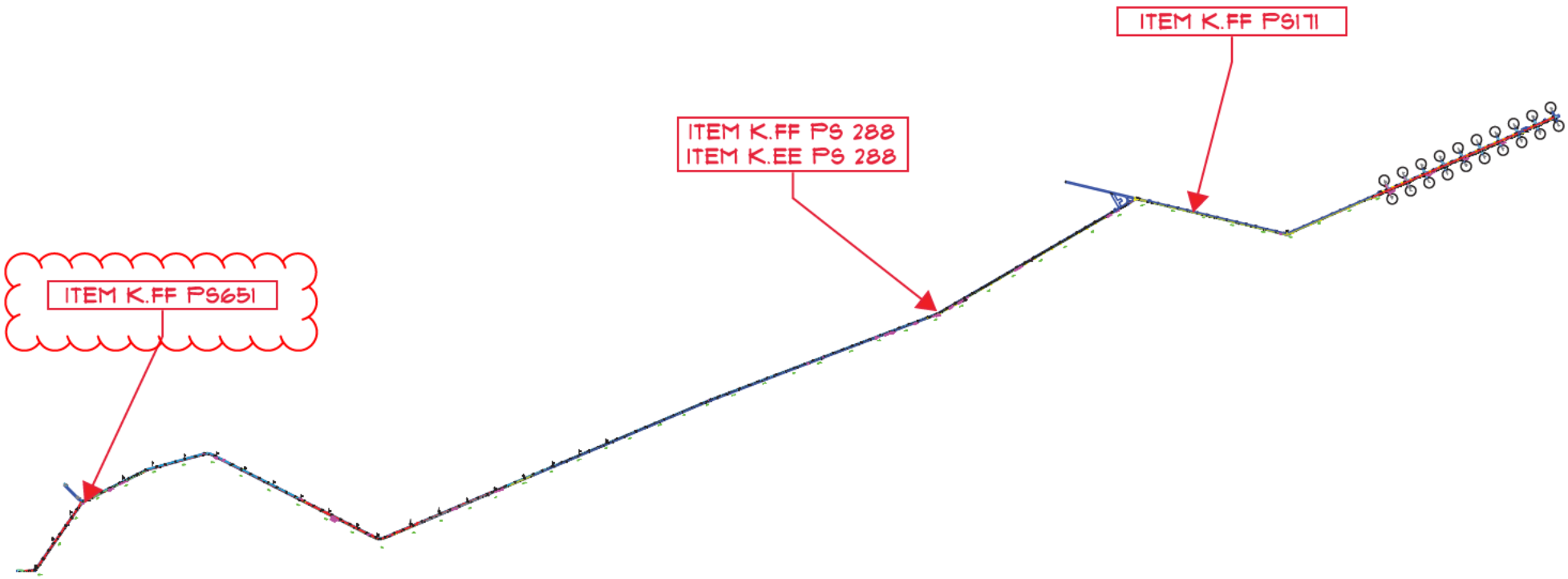
(b) (3) (A)

	SHOP / FIELD	PROCEDURE	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 / F	DATE
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
INITIAL	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6)	04 / 13 / 2023	P	04 / 14 / 2023	(b) (6)	P	04 / 17 / 2023	(b) (6)				N/A	
REWORK 1											STRUCTURAL WELD											
REWORK 2																						

EMERGENT PIPELINE REPAIRS

Repair 182

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
(b) (3) (A) [redacted]	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6) [redacted]	04 / 13 / 2023	P	04 / 14 / 2023	(b) (6) [redacted]	P	04 / 17 / 2023	(b) (6) [redacted]				N/A	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	04 / 13 / 2023	P	04 / 14 / 2023	[redacted]	P	04 / 17 / 2023	[redacted]				N/A	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	04 / 13 / 2023	P	04 / 14 / 2023	[redacted]	P	04 / 17 / 2023	[redacted]				N/A	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	04 / 13 / 2023	P	04 / 14 / 2023	[redacted]	P	04 / 17 / 2023	[redacted]				N/A	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	04 / 13 / 2023	P	04 / 14 / 2023	[redacted]	P	04 / 17 / 2023	[redacted]				N/A	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	04 / 13 / 2023	P	04 / 14 / 2023	[redacted]	P	04 / 17 / 2023	[redacted]				N/A	
											STRUCTURAL WELD											
REWORK 2																						


ITEM K.FF PS171
ITEM K.FF PS 288
ITEM K.EE PS 288
ITEM K.FF PS651

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

IN-PROCESS EXAMINATION REPORTS

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #:	(b) (3) (A)	**Item Inspected:** (weld number, tie point etc, attach drawing)	(b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** **QA Lead:**	(b) (6)	
(b) (4) **Procedure:**	AMS-830-15-PR-45037		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	7 April 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		7 April 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		7 April 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		7 April 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		7 April 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		7 April 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		7 April 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		7 April 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		7 April 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4)		17 April 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

In-process examination completed in accordance with project specification 33 52 23.15; All visual inspections were performed in accordance with (b) (4) Procedure AMS-830-15-PR-45037 - GENERAL TECHNIQUE VISUAL EXAMINATION

(b) (6)		17 April 2023	(b) (6)
Inspector Name	**Inspector Signature**	**Date**	**Certification: ☐CAWI ☒CWI ☐SCWI**

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #:	(b) (3) (A)	**Item Inspected:** (weld number, tie point etc, attach drawing)	(b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** **QA Lead:**	(b) (6)	
(b) (4) **Procedure:**	AMS-830-15-PR-45037		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	10 April 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		10 April 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		10 April 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		10 April 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		10 April 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		10 April 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		10 April 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		12 April 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		12 April 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4)		17 April 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

In-process examination completed in accordance with project specification 33 52 23.15; All visual inspections were performed in accordance with (b) (4) Procedure AMS-830-15-PR-45037 - GENERAL TECHNIQUE VISUAL EXAMINATION

(b) (6)		17 April 2023	(b) (6)
Inspector Name	**Inspector Signature**	**Date**	**Certification: ☐CAWI ☒CWI ☐SCWI**

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #:	(b) (3) (A)	**Item Inspected:** (weld number, tie point etc, attach drawing)	(b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** **QA Lead:**	(b) (6)	
(b) (4) **Procedure:**	AMS-830-15-PR-45037		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	7 April 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		7 April 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		7 April 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		7 April 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		7 April 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		7 April 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		7 April 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		7 April 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		7 April 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4)		17 April 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

In-process examination completed in accordance with project specification 33 52 23.15; All visual inspections were performed in accordance with (b) (4) Procedure AMS-830-15-PR-45037 - GENERAL TECHNIQUE VISUAL EXAMINATION

(b) (6)		17 April 2023	(b) (6)
Inspector Name	**Inspector Signature**	**Date**	**Certification: ☐CAWI ☒CWI ☐SCWI**

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #:	(b) (3) (A)	**Item Inspected:** (weld number, tie point etc, attach drawing)	(b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** **QA Lead:**	(b) (6)	
(b) (4) **Procedure:**	AMS-830-15-PR-45037		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	30 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		30 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		30 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		30 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		30 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		30 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		30 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		30 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		30 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4)		17 April 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

In-process examination completed in accordance with project specification 33 52 23.15; All visual inspections were performed in accordance with (b) (4) Procedure AMS-830-15-PR-45037 - GENERAL TECHNIQUE VISUAL EXAMINATION

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI
(b) (6)		17 April 2023	(b) (6)

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #:	(b) (3) (A)	**Item Inspected:** (weld number, tie point etc, attach drawing)	(b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** **QA Lead:**	(b) (6)	
(b) (4) **Procedure:**	AMS-830-15-PR-45037		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	6 April 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		6 April 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		6 April 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		6 April 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		6 April 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		6 April 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		6 April 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		6 April 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		6 April 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4)		17 April 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

In-process examination completed in accordance with project specification 33 52 23.15; All visual inspections were performed in accordance with (b) (4) Procedure AMS-830-15-PR-45037 - GENERAL TECHNIQUE VISUAL EXAMINATION

(b) (6)		17 April 2023	(b) (6)
Inspector Name	**Inspector Signature**	**Date**	**Certification: ☐CAWI ☒CWI ☐SCWI**

REPAIR K.ff AT [redacted]

NDE REPORTS

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 182

(b) (4)

W. O. No.: 23-034

Report No.: GS041723

Date: 4-17-2023

Page 1 of 2

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME B31.3	ACCEPTANCE ASME B31.3		
PROJECT Redhill Emergent Piping	DWG. NO.	PROCEDURE NDT-006 REV C	ACC. PROC. B31.3 REV 2015		
RT SOURCE TR192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS	MATERIAL CS
			TYPE IB	TECHNIQUE USED 3, 1	THICKNESS (b) (3) (A)
			MATERIAL CS	EXPOSURE TIME 2:30	JOINT TYP
			LOCATION F	PROCESSING MANUAL / AUTOMATIC	PIPE DIA.

(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
F24 W1	(b) (3) (A)	.020	X												
		/	X												
		/	X												
		/		X	X										
F24 W2		.020	X												
		/	X												
F24 W3		.020	X												
		/	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) 4-17-2023 Date

(b) (6) II SNT-TC-1A Level

4-17-2023 Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 182

(b) (4)

W. O. No.: 23-034

Report No.: GS04R723

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
F24 W4	(b) (3) (A)	.020	X												(b) (3) (A)
		/	X												
			X												
		.020	X												
F24 W5		/	X												
			X												
			X												
			X												
F24 W6		.020	X												
		/	X												
			X												
		/	X												
F24 W7		.020	X	1											
		/	X												
			X												
		/	X												
F24 W1 R1		.020	X												

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

4-17-2023

Date of Inspection

Repair 182

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client (b) (4)	Location: Red Hill	Page 1 of 1
P.O. No.:	Job No.: 23-034	
(b) (4)	Code: ASME B31.3	
Report No. GS041823		

ITEM: (b) (3) (A) Torsion Bars

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	1A01K 030929	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	06010K 04394	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	07K15K 08738	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒ White		FC 150		(b) (4) Control # UV Meter ☐ N/A ☐

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

Sketch/Notes

No indications noted at time of inspection.

Performed By (b) (6) Level II Date: 4/18/2023

Reviewed By: Date:

HYDROTEST REPORTS

(b) (4)

HYDROSTATIC TEST FORM

CLIENT: (b) (4)

SYSTEM: SPOOL HYDRO

Project Name: **Red Hill Emergent Pipeline**

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

Starting point

Connection Point

Ending point

PSI Req.: e Req.: 4 hours

Start of Test Period: Time: 11:03 hrs Date: 8/8/2023

End of Test Period: Time: 15:03 hrs Date: 8/8/2023

No.	Time	PSI READING	Remarks
1	11.03	(b) (3) (A)	Pic taken; no leaks detected
2	11:18		No leaks detected
3	11:33		No leaks detected
4	11:48		No leaks detected
5	12:03		Pic taken
6	12:18		No leaks visual, ambient temperature went up
7	12:33		No leaks visual, ambient temperature keeps rising
8	12:48		No leaks visual, ambient temperature keeps rising
9	13:03		Picture taken
10	13:18		No leaks visual, PSI increased to (b) (3) (A) ambient temperature keeps rising
11	13:33		No leaks visual, ambient temperature keeps rising
12	13:48		No leaks visual, PSI rising from ambient temperature
13	14:03		Picture taken, no leaks, gauge increased to (b) (3) (A)
14	14:18		PSI INCREASED TO (b) (3) (A) released PSI back (b) (3) (A)
15	14:33		No leaks visual,
16	14:48		No leaks visual, PSI increased to (b) (3) (A) ambient temperature keeps rising
17	15:03		End test, picture taken, no visual leaks

PSI Gauge Manufacturer: Ashcroft 0-600

Test Witness Client:

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

RD Technology of Hawaii
134 Nakolo Place
Honolulu, HI 96819
(808) 833-3499

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
32488	Pressure Gauge
Serial Number	**Description**
02/28/2023	182,039
Calibration Date	**Test Number**
02/28/2024	
Recalibration Due	**Asset Number**
(b) (4)	23 °C / 43 % RH
Instrument Accuracy / Procedure	**Temperature** / **Humidity**

RD Technology of Hawaii's quality management system conforms to ISO/IEC 17025:2005, ANSI/NCSL Z540-1-1994, and MIL-STD-45662A. All calibrations are performed using internationally recognized standards traceable to the International System of Units (SI Units). Traceability is achieved through calibrations by the National Institute of Standards and Technology (NIST), other National Measurement Institutes (NMI's), or by using natural physical contants, intrinsic standards, or ratio calibration techniques. There is no expressed or implied warranty that the above instrument will maintain its specificied tolerances during the calibration interval due to possible drift, environment, or other factors beyond the control of RD Technology of Hawaii.

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.	183
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.15
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	11 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	N/A	(b) (3) (A)	

Repair Description	Reported corrosion of 46% at the bulkhead. Pipe is (b) (3) (A) bulkhead. The piping will need to be re-anchored.	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; 100% VT on all shear (b) (3) (A) d cumulative 50% requirement. Hydrotest of spool assembly.	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

At bulkhead penetration between (b) (3) (A) Contractor used the existing bulkhead penetration as a sleeve for the new pipe segment. Contractor installed and (b) (3) (A) through the existing piping and reduced again to mate to a weld neck flanged spool on the (b) (3) (A) side of the repair. To prevent thrust movement, Contractor fillet welded shear lugs butting up to the bulkhead sleeve. Contractor installed Teflon centralizers to prevent the pipe from contacting the interior of the bulkhead sleeve.

NDE result table, NDE inspection report, weld map/design detail and hydrotest result 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	11 AUG 2023

(b) (3) (A)

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

Repair 183

		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 16 / 2023	(b) (6)	03 / 20 / 2023	P	(b) (6)	03 / 20 / 2023	(b) (6)	03 / 20 / 2023	P	03 / 20 / 2023	(b) (6)				P	03 / 30 / 2023	(b) (6)	N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 21 / 2023		03 / 21 / 2023	P		03 / 21 / 2023		03 / 21 / 2023	P	03 / 21 / 2023					F	03 / 30 / 2023		N/A	
										03 / 31 / 2023	P	03 / 31 / 2023					P	03 / 31 / 2023			
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 22 / 2023		03 / 22 / 2023	P		03 / 22 / 2023		03 / 22 / 2023	P	03 / 22 / 2023					P	03 / 30 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 21 / 2023		03 / 21 / 2023	P		03 / 21 / 2023		03 / 21 / 2023	P	03 / 21 / 2023					P	03 / 30 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 24 / 2023		03 / 24 / 2023	P		03 / 24 / 2023		03 / 24 / 2023	P	AW					P	03 / 30 / 2023		P	08 / 08 / 2023
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 27 / 2023		03 / 27 / 2023	P		03 / 27 / 2023		03 / 27 / 2023	P	03 / 27 / 2023					P	03 / 30 / 2023		P	08 / 08 / 2023
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 23 / 2023		03 / 23 / 2023	P		03 / 23 / 2023		03 / 23 / 2023	P	03 / 23 / 2023					F	03 / 30 / 2023		N/A	
										03 / 31 / 2023	P	03 / 31 / 2023					P	03 / 31 / 2023			
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	

EMERGENT PIPELINE REPAIRS

Repair 183

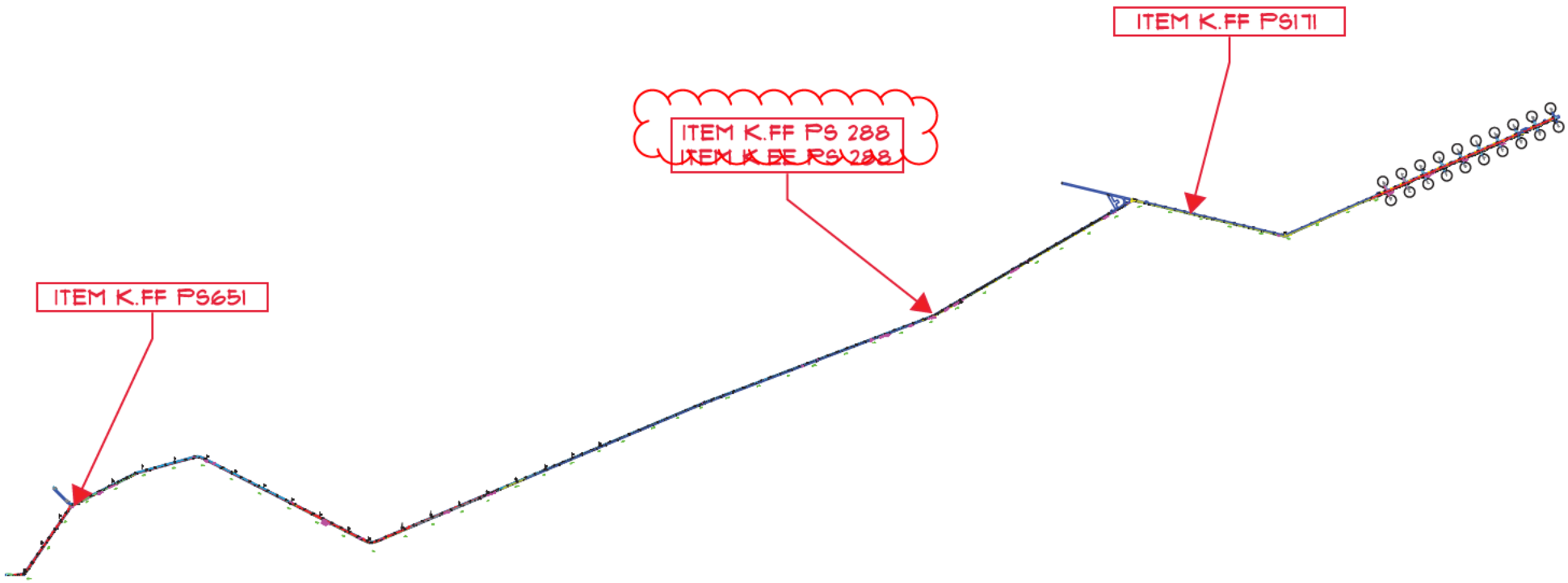
(b) (3) (A) [redacted]	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (3) (A) [redacted]	03 / 29 / 2023	P	03 / 29 / 2023	(b) (3) (A) [redacted]							N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 29 / 2023	P	03 / 29 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 29 / 2023	P	03 / 29 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 29 / 2023	P	03 / 29 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 29 / 2023	P	03 / 29 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 29 / 2023	P	03 / 29 / 2023								N/A	
												STRUCTURAL WELD										

EMERGENT PIPELINE REPAIRS

Repair 183

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
(b) (3) (A)	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6)	03 / 29 / 2023	P	03 / 29 / 2023	(b) (6)							N/A	
											STRUCTURAL WELD											

			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 29 / 2023	P	03 / 29 / 2023								N/A	
											STRUCTURAL WELD											


ITEM K.FF PS651
ITEM K.FF PS 288
ITEM K.FF PS171

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

IN-PROCESS EXAMINATION REPORTS

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		**Item Inspected:** (weld number, tie point etc, attach drawing)	Weld (clos (b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** **QA Lead:** (b) (6)		
(b) (4)			

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	16 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		16 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		16 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		16 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		16 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		20 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		20 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		20 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		20 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (4)

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing)	Weld (clos (b) (3) (A)
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	21 March 2023
Welder is Qualified: Stamp #(b) (6)	☐	Acceptable		21 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		21 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		21 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		21 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		21 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		21 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (4)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		**Item Inspected:** (weld number, tie point etc, attach drawing)	Weld (clos (b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** (b) (6)		
(b) (4)	**QA Lead:**		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	22 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		22 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		22 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		22 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		22 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		22 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		22 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		22 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		22 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (4)

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing)	Weld (clos (b) (3) (A)
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	21 March 2023
Welder is Qualified: Stamp #(b) (6)	☐	Acceptable		21 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		21 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		21 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		21 March 2023
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Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
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Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		21 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (4)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		**Item Inspected:** (weld number, tie point etc, attach drawing)	Weld (clos (b) (3) (A)
Applicable Code: ASME B31.3-2020	**Alternative Testing Approved by:** (b) (6)		
(b) (4)	**QA Lead:**		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	23 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		23 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		23 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		23 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		23 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		23 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		23 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		23 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		23 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (4)

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

REPAIR K.ff AT [redacted]

NDE REPORTS

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 183

(b) (4)

W. O. No.: 23-034

Report No.: GS3323

Date: 3/30/23

Page 1 of 4

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT Red Hill emergent line	DWG. NO.	PROCEDURE MT006 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 1 / 3	THICKNE (b) (3) (A)
			MATERIAL SS	EXPOSURE TIME 7:00	JOINT TY
			LOCATION F	PROCESSING [ ] MANUAL [X] 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
F24 W1	(b) (3) (A)	.020	X												(b) (3) (A)
		/	X												
			X												
			X												
F24 W2		.020		X			X								
		/	X												
			X												
F2 W3		.020	X												
		/	X												
			X												

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

(b) (6)

D — T-TC-1A Level

3/30/23 — Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 183

(b) (4)

W. O. No.: 23-034

Report No.: GS033023

WELD #	VIEW #	GEOMETRIC UNSHARPNESS *UG*	ACCEPT	REJECT	Porosity	Slag Inclusions	Cracks	Lack of Fusion	Lack of Penet.	Undercut	Burn Thru	Suck Back	m Artifact	REMARKS
FZ4 W4	(b) (3) (A)	.026	X											(b) (3) (A)
		/	X											
		/	X											
		/	X											
FZ4 W5		.026	X											
		/	X											
		/	X											
		/	X											
FZ4 W6		.020	X											
		/	X		/									
		/	X											
		/	X											
FZ4 W7		.020		X	/									
		/	X											
		/	X											
		/	X											

(b) (6)

II

SNT-TC-1A Level

3-30-2023

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 183

(b) (4)

W. O. No.: 23-034

Report No.: GS 33123

Date: 3/31/23

Page 1 of 1

FORM NDT-005.1

CUSTOMER (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3		
PROJECT Red Hill Emergent Ine	DWG. NO.	PROCEDURE NDT006 REV C	ACC. PROC. B31.3 REV 2015		
RT SOURCE IR192	FILM AGFA D8	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS ✓	MATERIAL CS
(b) (3) (A)			TYPE 1B	TECHNIQUE USED 3	THICKNES
			MATERIAL SS	EXPOSURE TIME 5:30	JOINT TYP
			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
FZ4-W2 R1	(b) (3) (A)	.020	X												
FZ4-W7 R1		.020	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

3/31/23 — Date of Inspection

Customer

REPAIR K.ff AT F(b) (3) (A)

HYDROTEST REPORTS

[redacted]

HYDROSTATIC TEST FORM

CLIENT: [redacted]

SYSTEM: SPOOL HYDRO

Project Name: **Red Hill Emergent Pipeline**

System Description: [redacted]

Starting point:

Connection Point:

Ending point:

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

Start of Test Period: Time: 11:03 hrs Date: 8/8/2023

End of Test Period: Time: 15:03 hrs Date: 8/8/2023

No.	Time	PSI READING	Remarks
1	11.03	[redacted]	Pic taken; no leaks detected
2	11:18		No leaks detected
3	11:33		No leaks detected
4	11:48		No leaks detected
5	12:03		Pic taken
6	12:18		No leaks visual, ambient temperature went up
7	12:33		No leaks visual, ambient temperature keeps rising
8	12:48		No leaks visual, ambient temperature keeps rising
9	13:03		Picture taken
10	13:18		No leaks visual, PSI increased to [redacted] ambient temperature keeps rising
11	13:33		No leaks visual, ambient temperature keeps rising
12	13:48		No leaks visual, PSI rising from ambient temperature
13	14:03		Picture taken, no leaks, gauge increased to [redacted] PSI
14	14:18		PSI INCREASED [redacted]
15	14:33		No leaks visual,
16	14:48		No leaks visual, PSI increased to [redacted] ambient temperature keeps rising
17	15:03		End test, picture taken, no visual leaks

PSI Gauge Manufacturer: Ashcroft 0-600

Test Witness Client: [redacted]

Test Witness OCI Rep.: [redacted]

(b) (4)

(b) (4) g.1
7/1/15

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
32488	Pressure Gauge
Serial Number	**Description**
02/28/2023	182,039
Calibration Date	**Test Number**
02/28/2024	
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	
Condition Received	
In Tolerance	
Condition Returned	

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	184
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.16
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	11 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	N/A	(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; 100% VT on all shear (b) (3) (A) cumulative 50% requirement. Hydrotest of spool assembly.	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, and hydrotest result 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	11 AUG 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

Repair 184

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
(b) (3) (A)	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	04 / 27 / 2023	(b) (6)	04 / 27 / 2023	P	(b) (6)	04 / 27 / 2023	(b) (6)	04 / 28 / 2023	P	04 / 28 / 2023	(b) (6)				P	05 / 03 / 2023	(b) (6)	NA	
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	05 / 01 / 2023		05 / 01 / 2023	P		05 / 01 / 2023		05 / 01 / 2023	P	05 / 01 / 2023					P	05 / 03 / 2023		NA	
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	05 / 01 / 2023		05 / 01 / 2023	P		05 / 01 / 2023		05 / 01 / 2023	P	05 / 01 / 2023					P	05 / 03 / 2023		NA	
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	04 / 17 / 2023		04 / 17 / 2023	P		04 / 17 / 2023		04 / 18 / 2023	P	04 / 18 / 2023					P	05 / 03 / 2023		NA	
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	04 / 18 / 2023		04 / 18 / 2023	P		04 / 19 / 2023		04 / 19 / 2023	P	04 / 19 / 2023					P	05 / 03 / 2023		P	08 / 08 / 2023
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	04 / 18 / 2023		04 / 18 / 2023	P		04 / 19 / 2023		04 / 19 / 2023	P	04 / 19 / 2023					P	05 / 03 / 2023		P	08 / 08 / 2023
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	HOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	05 / 02 / 2023		05 / 02 / 2023	P		05 / 02 / 2023		05 / 02 / 2023	P	05 / 02 / 2023					P	05 / 03 / 2023		NA	

EMERGENT PIPELINE REPAIRS

Repair 184

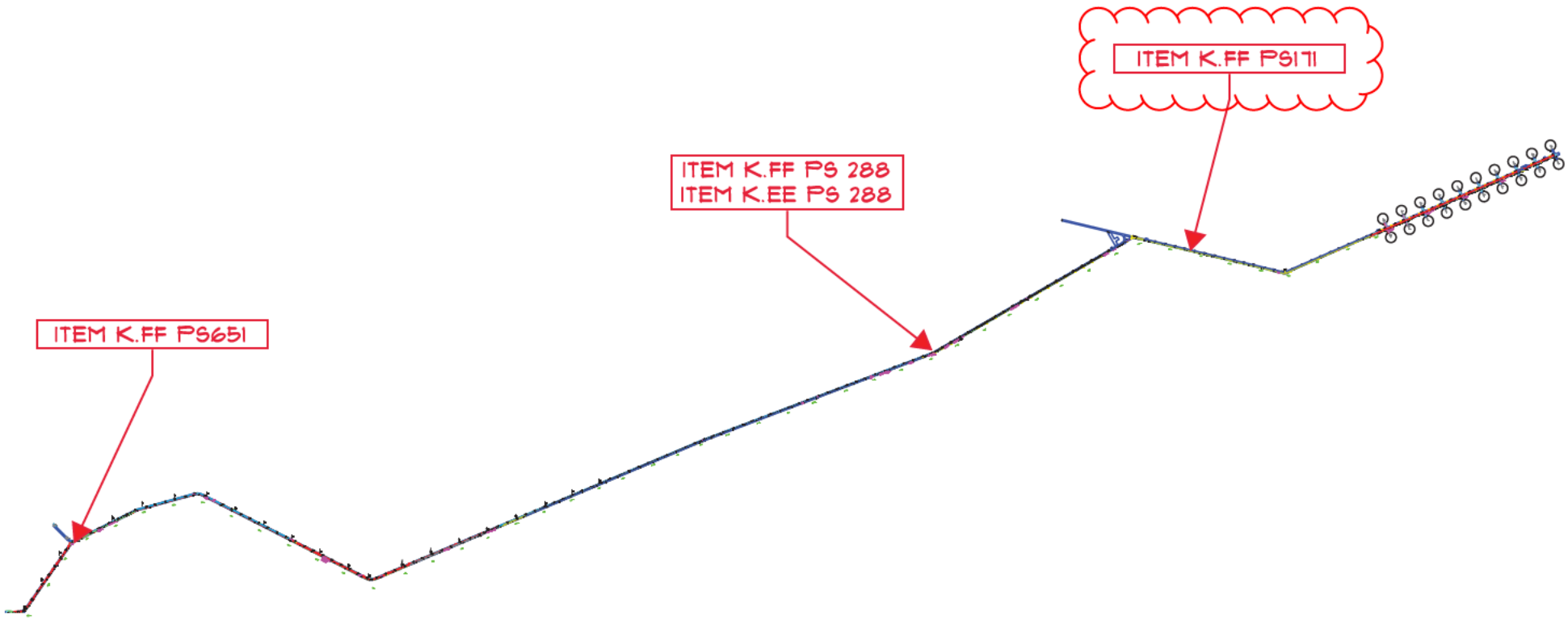
REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
[redacted]	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	[redacted]	MT / PT P/F	DATE	[redacted]	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS						COVER PASS							NDE			HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
											STRUCTURAL WELD											

EMERGENT PIPELINE REPAIRS

Repair 184

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
(b) (3) (A)	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6)	05 / 04 / 2023	P	05 / 04 / 2023	(b) (6)	P	05 / 04 / 2023	(b) (6)				NA	
											STRUCTURAL WELD											

			FIT-UP		ROOT PASS					COVER PASS										HYDROTEST	
	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							05 / 04 / 2023	P	05 / 04 / 2023		P	05 / 04 / 2023					NA	
										STRUCTURAL WELD											


ITEM K.FF PS171
ITEM K.FF PS 288
ITEM K.EE PS 288
ITEM K.FF PS651

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

IN-PROCESS EXAMINATION REPORTS

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	27 April 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		27 April 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		27 April 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		27 April 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		27 April 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		28 April 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		28 April 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		28 April 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		28 April 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		4 May 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	1 May 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		1 May 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		1 May 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		1 May 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		1 May 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		1 May 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		1 May 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		1 May 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		1 May 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		4 May 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	1 May 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		1 May 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		1 May 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		1 May 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		1 May 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		1 May 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		1 May 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		1 May 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		1 May 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		4 May 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	17 April 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		17 April 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		17 April 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		17 April 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		17 April 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		17 April 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		18 April 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		18 April 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		4 May 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	2 May 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		2 May 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		2 May 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		2 May 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		2 May 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		2 May 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		2 May 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		2 May 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		2 May 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed, (b) (4), (b) (6)		4 May 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

REPAIR K.ff AT (b) (3) (A)

NDE REPORTS

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 184

(b) (4)

W. O. No.: 23-034

Report No.: GS5023

Date: 5/4/23

Page 1 of 3

FORM NDT-005.1

CUSTO (b) (4)	CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3	1. Single Wall
PROJECT Red Hill Emergent pipeline	DWG. NO.	PROCEDURE NDT-016 REV C	ACC. PROC. B31.3 REV 2015	Panoramic
RT SOURCE Ir 192	FILM AGFA D5	PB SCREENS	PENS: ASTM	SHIMS MAT'L/THKNS —	MATERIAL CS	2. Single Wall
(b) (3) (A)			TYPE B	TECHNIQUE USED 3 / 1	THICKNES (b) (3) (A)	Offset
			MATERIAL SS	EXPOSURE TIME 30 sec	JOINT TY	3. Double Wall
			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)		.020	X												(b) (3) (A)
			X												
			X												
			X												
		.020	X												
			X												
			X												
			X												

Double Wall 0/90

Elliptical

Plate

Other

(b) (6)

II — SNT-TC-1A Level

5/4/23 — Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 184

(b) (4)

W. O. No.: 23-034

Report No.: 6550423

(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
(b) (3) (A)		.020	X												(b) (3) (A)
			X												
			X												
		.020	X												
			X												
			X												
		.020	X												
			X												
			X												
			X												
		.020	X												
			X												
			X												
		.020	X												
			X												
			X												
			X												

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

5/4/23

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 184

(b) (4)

W. O. No.: 23-034

Report No.: 6550423

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

(b) (6)

II

5/4/23

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

Repair 184

[redacted]

LIQUID PENETRANT EXAMINATION RECORD

Client [redacted]	Location: Red Hill	Page 1 of 1
P.O. No.: [redacted]	Job No.: 23-034	
Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS050423		

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	1A01K 030929	Method of Application: Brush
	Penetrant	Magnaflux	SKL-SP1	N/A	06010K 04394	Dwell Time: 10 Min
	Emulsifier	N/A	N/A	N/A	N/A	Emulsification Time: N/A
	Developer	Magnaflux	SKD-S2	N/A	07K15K 08738	Developing Time: 15 Min
Temperature: X 60° F – 125° F Other ____		Illumination: ☒ White		FC 150		[redacted] Control # UV Meter ☐ N/A ☐

Item(s)	Accept	Reject	Sketch/Notes
[redacted]	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☐	☐	
	☐	☐	

Performe[redacted] Level II Date: 5/04/2023

Reviewed By: Date:

REPAIR K.ff AT [redacted]

HYDROTEST REPORTS

[redacted]

HYDROSTATIC TEST FORM

CLIENT: [redacted]

SYSTEM: SPOOL HYDRO

Project Name: **Red Hill Emergent Pipeline**

System Description: [redacted]

Starting point

Connection Point

Ending point

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

Start of Test Period: Time: 11:03 hrs Date: 8/8/2023

End of Test Period: Time: 15:03 hrs Date: 8/8/2023

No.	Time	PSI READING	Remarks
1	11.03	[redacted]	Pic taken; no leaks detected
2	11:18		No leaks detected
3	11:33		No leaks detected
4	11:48		No leaks detected
5	12:03		Pic taken
6	12:18		No leaks visual, ambient temperature went up
7	12:33		No leaks visual, ambient temperature keeps rising
8	12:48		No leaks visual, ambient temperature keeps rising
9	13:03		Picture taken
10	13:18		No leaks visual, PSI increased to [redacted] ambient temperature keeps rising
11	13:33		No leaks visual, ambient temperature keeps rising
12	13:48		No leaks visual, PSI rising from ambient temperature
13	14:03		Picture taken, no leaks, gauge increased to [redacted] PSI
14	14:18		PSI INCREASED TO [redacted]
15	14:33		No leaks visual,
16	14:48		No leaks visual, PSI increased to [redacted] ambient temperature keeps rising
17	15:03		End test, picture taken, no visual leaks

PSI Gauge Manufacturer: Ashcroft 0-600

Test Witness Client: [redacted]

Test Witness OCI Rep.:

[redacted]

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
32488	Pressure Gauge
Serial Number	**Description**
02/28/2023	182,039
Calibration Date	**Test Number**
02/28/2024	
Recalibration Due	**Asset Number**
(b) (4)	23 °C / 43 % RH
Instrument Accuracy / Procedure	**Temperature** / **Humidity**

[redacted]

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

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	188
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.A21.02
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	11 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	N/A	(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; 100% VT on all shear (b) (3) (A) eed cumulative 50% requirement. Hydrotest of spool assembly.	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

(b) (3) (A)

NDE result table, NDE inspection report, weld map/design detail, and hydrotest result 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	11 AUG 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

Repair 188

		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 15 / 2023	(b) (6)	03 / 16 / 2023	P	(b) (6)	03 / 16 / 2023	(b) (6)	03 / 16 / 2023	P	03 / 16 / 2023	(b) (6)				P	03 / 30 / 2023	(b) (6)	N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 22 / 2023		03 / 24 / 2023	P		03 / 24 / 2023		03 / 24 / 2023	P	03 / 24 / 2023					P	03 / 30 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 21 / 2023		03 / 21 / 2023	P		03 / 21 / 2023		03 / 21 / 2023	P	03 / 21 / 2023					P	03 / 30 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 21 / 2023		03 / 21 / 2023	P		03 / 21 / 2023		03 / 21 / 2023	P	03 / 21 / 2023					P	03 / 30 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 28 / 2023		03 / 28 / 2023	P		03 / 28 / 2023		03 / 28 / 2023	P	03 / 28 / 2023					P	03 / 30 / 2023		P	08 / 04 / 2023
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 28 / 2023		03 / 28 / 2023	P		03 / 28 / 2023		03 / 28 / 2023	P	03 / 28 / 2023					P	03 / 30 / 2023		P	08 / 04 / 2023
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI TM1-b	P	03 / 23 / 2023		03 / 23 / 2023	P		03 / 23 / 2023		03 / 24 / 2023	P	03 / 24 / 2023					P	03 / 30 / 2023		N/A	
		FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	

EMERGENT PIPELINE REPAIRS

Repair 188

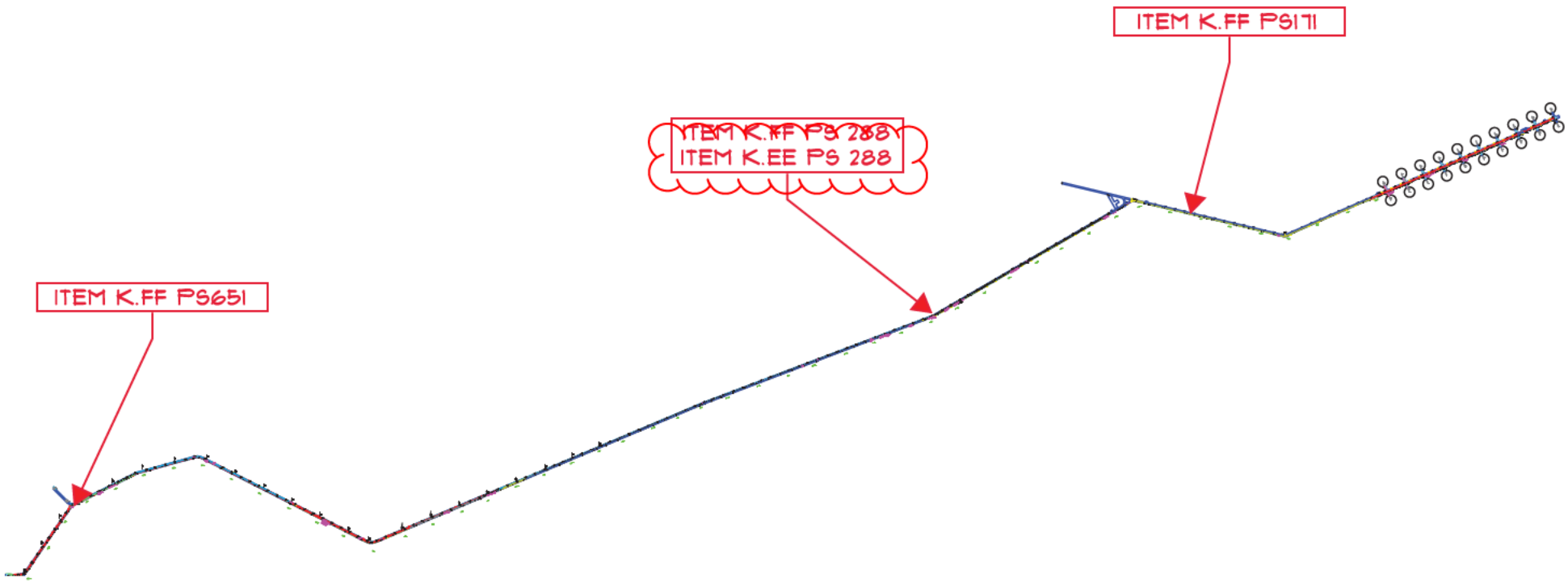
(b) (3) (A) [redacted]	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	WELDER	DATE	VT P/F	DATE	INSPECTOR	MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6) [redacted]	03 / 31 / 2023	P	03 / 31 / 2023	(b) (6) [redacted]							N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS							COVER PASS			NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 31 / 2023	P	03 / 31 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS							COVER PASS			NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 31 / 2023	P	03 / 31 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS							COVER PASS			NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 31 / 2023	P	03 / 31 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS							COVER PASS			NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 31 / 2023	P	03 / 31 / 2023								N/A	
												STRUCTURAL WELD										
			FIT-UP		ROOT PASS							COVER PASS			NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 31 / 2023	P	03 / 31 / 2023								N/A	
												STRUCTURAL WELD										
REWORK 2																						

EMERGENT PIPELINE REPAIRS

Repair 188

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
(b) (3) (A)	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6)	03 / 31 / 2023	P	03 / 31 / 2023	(b) (6)							N/A	
											STRUCTURAL WELD											

			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								03 / 31 / 2023	P	03 / 31 / 2023								N/A	
											STRUCTURAL WELD											
REWORK 2																						


ITEM K.FF PS651
ITEM K.EE PS 288
ITEM K.FF PS171

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

IN-PROCESS EXAMINATION REPORTS

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	15 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		15 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		15 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		15 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		15 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		16 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		16 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		16 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		16 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (7)(A)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	22 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		22 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		22 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		22 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		22 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		24 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		24 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		24 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		24 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (7)(A)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	21 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		21 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		21 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		21 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		21 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		21 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		21 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (7)(A)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		
NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐			

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	21 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		21 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		21 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		21 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		21 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		21 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		21 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		21 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (7)(A)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing (b) (3) (A)	
Applicable Code: ASME B31.3-2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-b	☐	Acceptable	(b) (6)	23 March 2023
Welder is Qualified: Stamp # (b) (6)	☐	Acceptable		23 March 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		23 March 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		23 March 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		23 March 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		23 March 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐	Acceptable		23 March 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		24 March 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		24 March 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passed (b) (4), (b) (6)		30 March 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible		

Additional Comments:

(b) (3) (A)

CERTIFICATION

(b) (7)(A)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

NDE REPORTS

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 188

(b) (4)

W. O. No.: 23-034

Report No.: GS033023

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
JP5-W1	(b) (3) (A)	.020	X		/										(b) (3) (A)
		/	X												
		/	X												
		/	X		/										
JP5-W2		.020	X												
		/	X												
		/	X												
		/	X												
JP5-W3		.020	X												
		/	X												
		/	X												
		/	X		/										
JP5-W4		.020	X		/										
		/	X		/										
		/	X												
		/	X												

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

3-30-23

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 188

(b) (4)

W. O. No.: 23-034

Report No.: GS033023

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
JPS-W5	(b) (3) (A)	026	X	/											
		/	X												
		/	X	/											
		026	X												
JPS-W6		/	X												
		/	X												
		/	X												
		/	X												
JPS-W7		020	X												
		/	X												
		/	X												
		/	X												

(b) (3) (A)

(b) (6)

Film Interpreter

II

SNT-TC-1A Level

3-30-2023

Date of Inspection

HYDROTEST REPORTS

[redacted]

HYDROSTATIC TEST FORM

CLIENT: [redacted]

SYSTEM [redacted]

Project Name: **Red Hill Emergent Pipeline**

System Description: [redacted]

Starting point

Connection Point

Ending point

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

Start of Test Period: Time: 13:52 hrs Date: 8/4/2023

End of Test Period: Time: 17:52 hrs Date: 8/4/2023

No.	Time	PSI READING	Remarks
1	13:52	[redacted]	Start test
2	14:15		no visual leaks
3	14:30		PSI dropped, no visual leaks
4	14:45		PSI dropped, no visual leaks
5	15:00		PSI holding, no visual leaks
6	15:15		Low point drain blind flange is weeping
7	15:30		PSI dropped; Low point drain blind flange is weeping
8	15:45		PSI holding,
9	16:00		PSI dropped 2 lbs.
10	16:15		PSI holding, weeping at blin ped
11	16:30		PSI dropped 3 lbs.
12	16:45		PSI increased to
13	17:00		no visual leak
14	17:15		PSI holding
15	17:30		PSI dropped 1 lbs.
16	17:45		PSI holding
17	17:56		End test, PSI holding, no visual leaks

PSI Gauge Manufacturer: Ashcroft 0-600

Test Witness Client: [redacted]

Test Witness OCI Rep. [redacted]

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

(b) (4)

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
32488	Pressure Gauge
Serial Number	**Description**
02/28/2023	182,039
Calibration Date	**Test Number**
02/28/2024	
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	
Condition Received	
In Tolerance	
Condition Returned	

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	249
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	EPRC.OPT.c
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	11 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	N/A	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) (A) anchored to the bulkhead. A method using a reduced diameter sleeve is acceptable. Anchor new pup to concrete.	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; 100% VT on all shear (b) (3) (A) cumulative 50% requirement. Hydrotest of assembly.	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 and hydrotest result 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	11 AUG 2023

(b) (3) (A)

EMERGENT PIPELINE REPAIRS

Repair 249

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
(b) (3) (A)	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	02 / 06 / 2023	(b) (6)	02 / 06 / 2023	P	(b) (6)	02 / 06 / 2023	(b) (6)	02 / 06 / 2023	P	02 / 06 / 2023	(b) (6)			NEEDS RESHOOT-> DBL EXPOSURE ->	N/A	02 / 07 / 2023	(b) (6)		
																		P	02 / 24 / 2023		P	08 / 09 / 2023
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	SHOP	OCI TM1-b																P	04 / 19 / 2022		P	08 / 09 / 2023
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	02 / 08 / 2023		02 / 08 / 2023	P		02 / 08 / 2023		02 / 09 / 2023	P	02 / 09 / 2023					P	02 / 24 / 2023		P	08 / 09 / 2023
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	SHOP	OCI TM1-b																P	04 / 19 / 2022		P	08 / 09 / 2023
	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI TM1-b	P	01 / 30 / 2023		01 / 30 / 2023	P		01 / 30 / 2023		01 / 30 / 2023	P	01 / 30 / 2023					P	02 / 07 / 2023		N/A	
	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE	INSPECTOR	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								02 / 10 / 2023	P	02 / 10 / 2023		P	02 / 24 / 2023	(b) (6)					
											STRUCTURAL WELD											
	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE		DATE	VT P/F		DATE		DATE	VT P/F	DATE		MT / PT P/F	DATE		RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD								02 / 10 / 2023	P	02 / 10 / 2023		P	02 / 24 / 2023						
											STRUCTURAL WELD											
			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	

EMERGENT PIPELINE REPAIRS

Repair 249

(b) (3) (A)

SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI FW M1-d-1	FILLET WELD							(b) (6)	02 / 10 / 2023	P	02 / 10 / 2023	(b) (6)	P	02 / 24 / 2023	(b) (6)					
										STRUCTURAL WELD											

		FIT-UP		ROOT PASS					COVER PASS							E				HYDROTEST	
SHOP / FIELD	PROCEDURE	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 / F	DATE
FIELD	OCI FW M1-d-1	FILLET WELD								02 / 10 / 2023	P	02 / 10 / 2023		P	02 / 24 / 2023						
REWORK 1										STRUCTURAL WELD											
REWORK 2																					

EMERGENT PIPELINE REPAIRS

Repair 249

REPAIR ID			FIT-UP		ROOT PASS					COVER PASS					NDE						HYDROTEST	
[redacted]	SHOP / FIELD	PROCEDURE	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 / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	02 / 10 / 2023	P	02 / 10 / 2023	[redacted]	P	02 / 24 / 2023	[redacted]					
											STRUCTURAL WELD											

			FIT-UP		ROOT PASS					[redacted]	COVER PASS			[redacted]			[redacted]	DE			HYDROTEST	
[redacted]	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	[redacted]	MT / PT P/F	DATE	[redacted]	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	02 / 10 / 2023	P	02 / 10 / 2023	[redacted]	P	02 / 24 / 2023	[redacted]					
											STRUCTURAL WELD											

			FIT-UP		ROOT PASS					[redacted]	COVER PASS			[redacted]			[redacted]	DE			HYDROTEST	
[redacted]	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	[redacted]	MT / PT P/F	DATE	[redacted]	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	02 / 10 / 2023	P	02 / 10 / 2023	[redacted]	P	02 / 24 / 2023	[redacted]					
											STRUCTURAL WELD											

			FIT-UP		ROOT PASS					[redacted]	COVER PASS			[redacted]			[redacted]	DE			HYDROTEST	
[redacted]	SHOP / FIELD	PROCEDURE	FITUP P/F	DATE	WELDER	DATE	VT P/F	INSPECTOR	DATE	[redacted]	DATE	VT P/F	DATE	[redacted]	MT / PT P/F	DATE	[redacted]	RT P/F	DATE	INSPECTOR	P / F	DATE
	FIELD	OCI FW M1-d-1	FILLET WELD							[redacted]	02 / 10 / 2023	P	02 / 10 / 2023	[redacted]	P	02 / 24 / 2023	[redacted]					
											STRUCTURAL WELD											

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

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

REPAIR Option C at (b) (3) (A)

IN-PROCESS EXAMINATION REPORTS

(b) (4)

Form Number: AMS-830-15-FM-48017_IPE

Revision: 0 Approval Date: 2/7/2023

IN-PROCESS INSPECTION REPORT

Equipment /Line #: (b) (3) (A)		Item Inspected: (weld number, tie point etc, attach drawing) (b) (3) (A)	
Applicable Code: ASME B31.3 2020	Alternative Testing Approved by: (b) (6)		
(b) (4)	QA Lead:		

NDE required by Scope: MT Root☐ MT Passes☐ HTPT Root☐ HTPT Passes☐ MT Final☐ RT Final☒ SWUT PAUT☐ Final Root Int. VT☐

Legend: MT: Magnetic Particle Testing PT: Penetrant Testing HTPT: High Temp Penetrant Testing RT: Radiographic Testing; SWUT: Shear Wave Ultrasonic Testing PAUT: Phased Array Ultrasonic Testing VT: Visual Testing HDNT: Hardness Testing PMI: Positive Material Identification FT: Ferrite Testing HYDRO: Hydrostatic testing

Inspection Milestones	Hold Point	Findings, Repairs and Observations	Sign Off	Date
Weld Procedure Reviewed and Acceptable: WPS# OCI TM1-B	☐	Acceptable	(b) (6)	30 Jan 2023
Welder is Qualified: Stamp (b) (6)	☐	Acceptable		30 Jan 2023
Joint prep, Land, Bevel, Gap, Fit Up, Cleanliness;	☐	Acceptable		30 Jan 2023
Ensure Excessive Strain IS NOT Employed to Maintain Fit Up	☐	Acceptable		30 Jan 2023
Electrodes compliant to WPS, Rod Oven in use as required	☐	Acceptable		30 Jan 2023
Preheat adequate as required by WPS or Scope (use temp-stick)	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐			30 Jan 2023
Root Pass complete, Visual after cleaning, maintain preheat	☐			30 Jan 2023
Dry MT/HTPT of Root Pass (ref. NDE Report #), maintain preheat MT☐ HTPT☐	☐	N/A		
Observe weave and progression throughout all passes and ensure compliance to WPS. Ensure all slag & stop/start removal	☐	Acceptable		30 Jan 2023
Subsequent Pass's complete, Visual Inspection after cleaning	☒	Pass		30 Jan 2023
100% MT/PT Final (ref. NDE Report #) MT☐ HTPT☐	☐	N/A		
100% RT before PWHT if required (ref. NDE Report #)	☐	N/A		
If PWHT required, review chart and hardness	☐	N/A		
100% RT Final (ref. NDE Report #)	☒	Passe (b) (4)		7 Feb 2023
100% UT Final (ref. NDE Report #) SWUT☐ PAUT☐	☐	N/A		
Root Internal Visual Examination	☐	N/A – not accessible following weld.		

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

CERTIFICATION

(b) (6)

Inspector Name	Inspector Signature	Date	Certification: ☐CAWI ☒CWI ☐SCWI

REPAIR Option C at [redacted]

NDE REPORTS

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 249

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

Report No.: GS4/922

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
W1	(b) (3) (A)	.020	X												(b) (3) (A)
			X												
			X												
W1		.020	X												
			X												
			X												
			X												
			X												
(b) (3) (A)		.020	X												
			X												
			X												

(b) (6)

II

SNT-TC-1A Level

4-19-2022

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 249

(b) (4) W. O. No.: 23-034

Report No.: GSO22423

(b) (3) (A)

(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
		.020	X												
		/	X												
			X												
			X												
		.020	X												
		/	X												
			X												
			X												

(b) (6)

II

SNT-TC-1A Level

2-24-2023

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 249

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

Report No.: G541922

(b) (3) (A)

(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
		.67U	X											
			X											
			X											
			X											

(b) (6)

II

SNT-TC-1A Level

4-19-2022

Date of Inspection

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

Repair 249

(b) (4) W. O. No.: 23-0334

Report No.: GS20723

Page 3 of 3

(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
		.026	X												
			X												
			X												
			X												
		.026	X												
			X												
			X												
			X												

(b) (3) (A)

(b) (6)

II

-TC-1A Level

2-7-23

Date of Inspection

Repair 249

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

LIQUID PENETRANT EXAMINATION RECORD

Client (b) (4)	Location: Red Hill	Page 1 of 1
P.O. No.: (b) (4)	Job No.: 23-034	
Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS022423		

MATERIAL

TYPE: CS FW

Surface Condition:
- ☐ As Welded
- ☐ Ground
- ☐ Other Weld Prep
- ☒ New weld

PENETRANT MATERIAL

	BRAND	DESIGNATION	PO#	BATCH #
Cleaner	Magnaflux	SKC-S	N/A	1A01K 030929
Penetrant	Magnaflux	SKL-SP1	N/A	06010K 04394
Emulsifier	N/A	N/A	N/A	N/A
Developer	Magnaflux	SKD-S2	N/A	07K15K 08738

Temperature: X 60° F – 125° F
Other ____

Illumination: ☒ White FC 150

TECHNIQUE

Preclean Drying Time: 5 MIN
Method of Application: Brush
Dwell Time: 10 Min
Emulsification Time: N/A
Developing Time: 15 Min

(b) (4) Control #
UV Meter ☐ N/A ☐

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

Sketch/Notes

No indications noted at time of inspection.

Performed By (b) (6) Level II Date: 2/24/2023

Reviewed By: Date:

REPAIR Option C at [redacted]

HYDROTEST REPORTS

[redacted]

HYDROSTATIC TEST FORM

CLIENT: [redacted]

SYSTEM:

Project Name: **Red Hill Emergent Pipeline**

System Description: [redacted]

Starting point

Connection Point

Ending point

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

Start of Test Period: Time: 11:10 hrs Date: 8/9/2023

End of Test Period: Time: 15:10 hrs Date: 8/9/2023

No.	Time	PSI READING	Remarks – restart test due to PSI drop
1	10:55	[redacted]	Re-Start test, pic taken, no leaks detected
2	11:10		no visual leaks at flanges or testing area
3	11:25		no visual leaks at flanges or testing area
4	11:40		no visual leaks at flanges or testing area
5	11:55		no visual leaks at flanges or testing area
6	12:10		no visual leaks at flanges or testing area
7	12:25		no visual leaks at flanges or testing area
8	12:40		no visual leaks at flanges or testing area
9	12:55		no visual leaks at flanges or testing area PSI dropped 1 lbs. t[redacted]
10	13:10		Picture taken, no visual leaks at flanges or testing area
11	13:25		no visual leaks at flanges or testing area PSI dropped 1 lbs. t[redacted]
12	13:40		no visual leaks at flanges, PSI dropped 1 lbs. to 447
13	13:55		no visual leaks at flanges or testing area PSI dropped 2 lbs. t[redacted]
14	14:10		no visual leaks at flanges, PSI holding
15	14:25		no visual leaks at flanges, PSI holding
16	14:40		no visual leaks at flanges, PSI holding
17	14:55		End test, PSI holding, no visual leaks
18	15:10		end test, no visual leaks detected, holding PSI, no sign of leaks anywhere

PSI Gauge Manufacturer: Ashcroft 0-600

Test Witness Client: [redacted]

Test Witness OCI Rep.

[redacted]

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
32488	Pressure Gauge
Serial Number	**Description**
02/28/2023	182,039
Calibration Date	**Test Number**
02/28/2024	
Recalibration Due	**Asset Number**
(b) (4)	23 °C / 43 % RH
Instrument Accuracy / Procedure	**Temperature / Humidity**

[redacted]

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	

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	INC-028
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	AFFF.Line.1
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	08 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NAVFAC	N/A	(b) (3) (A)	

Repair Description	Repair (b) (3) (A) Line: Caulk Joints, Replace Belly Pump, Repair corroded pipe hangers	Source Contract Reference	N/A - In-house labor
Description of Contractor QC Method(s) Used	N/A	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	Visually inspected repairs. Verified joint sealant installation and hanger repair. Verified operation of belly pump replacement after electrical repair. Final acceptance by government. Date: 04 AUG 2023		

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

Comments

In-house labor applied (b) (3) (A) (b) (3) (A) line. Corroded pipe hangers were replaced in-kind, with plumber's wrap added for corrosion protection. Belly pump replaced; additional electrical repairs were identified in operational testing. Follow-on electrical repairs completed.

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	08 AUG 2023

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	INC-030
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	AFFF.LPD
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	08 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NAVFAC	N/A	(b) (3) (A)	

Repair Description	Repair damaged LPD on (b) (3) (A) Line. Provide protection around LPD after being repaired.	Source Contract Reference	N/A for in-house labor
Description of Contractor QC Method(s) Used	Two-party integrity verification by FLC personnel.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	FLCPH executed a work order to confirm retention line low point drain repaired. Completed work order with two-party verification was provided to JTF-RH QV. Final acceptance by government. Date: 04 AUG 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Pages 2-3.	◉	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	08 AUG 2023

(b) (3) (A)

(b) (3) (A)

Rework - Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location
INC-033	Contractor carefully removed (b) (3) (A) of residual fuel from the line via high point vents prior to removing spool. Full containment measures were deployed to prevent any accidental spillage of residual fuel when spool removed from (b) (3) (A) . The spool was transported out of the tunnel for the installation of the high point vent and low point drain assemblies. Socket welds were inspected via dye penetrant testing (PT). Spool was hydrostatically tested prior to reinstallation. Recovered fuel received by the Facility.	28 Jul 23	(b) (3) (A)

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	EPRC.K.pp
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	11 AUG 2023
QV Engineer	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	N/A	(b) (3) (A)	

Repair Description	(b) (3) (A)	Source Contract Reference	
Description of Contractor QC Method(s) Used	Methods outlined in detail in CQCP. Pipe butt welds 100% inspection via Radiographic Testing. Socket welds 100% NDE by VT and PT. Spools 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: 13 JUL 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	11 AUG 2023 / Rev 1

(b) (3) (A)

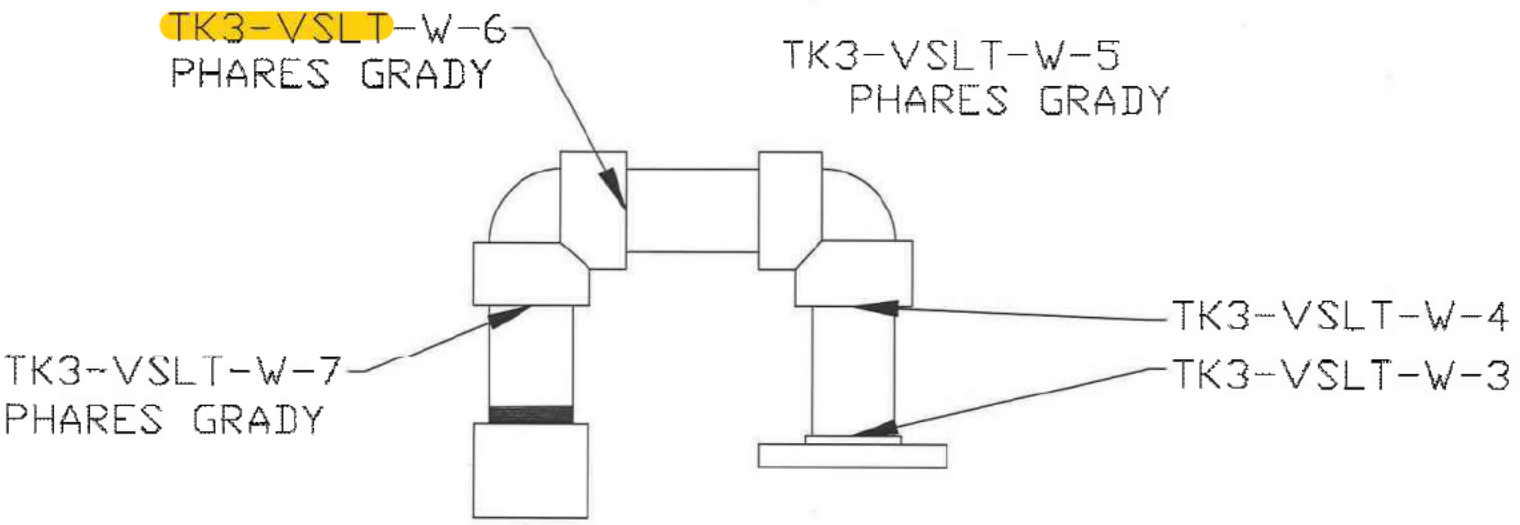
(b) (3) (A)

WELDERS - ID

(b) (6)

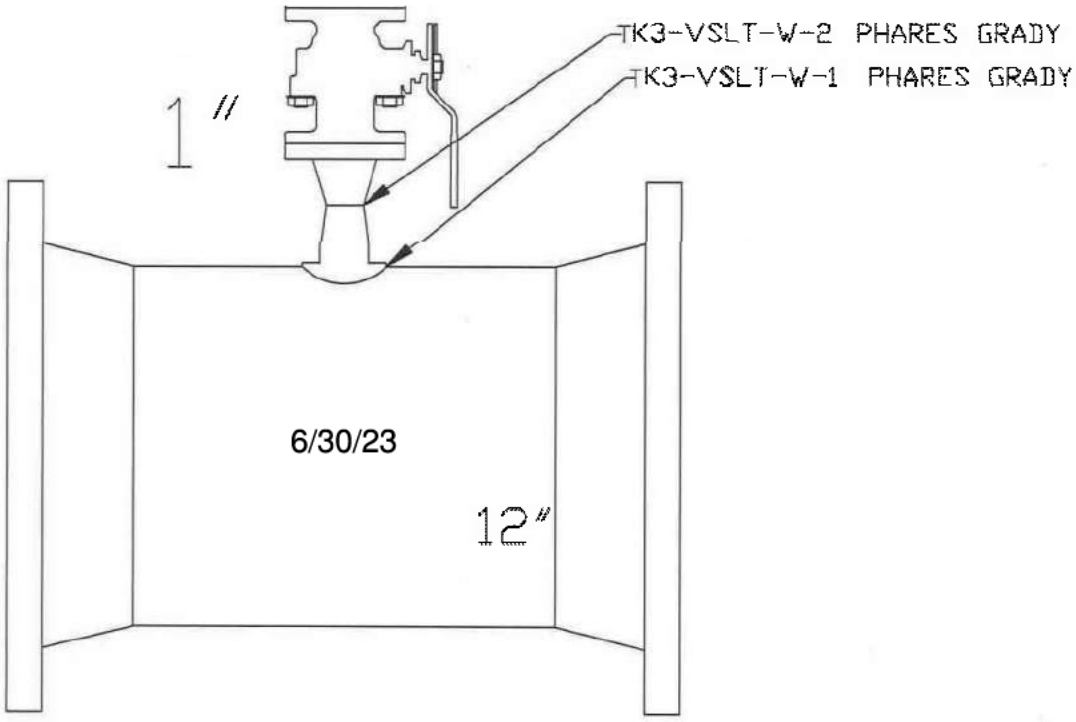
WELD INFORMATION								INSPECTION INFORMATION			
Weld ID	Number	SIZE	TYPE	JOINT	JOINT	WELDER ID	DATE	NDE TYPE	INITIALS	DATE	RESULTS
(b) (3) (A)		(b) (3) (A)		(b) (3) (A)		(b) (6)		(b) (3) (A)	(b) (6)		
	1		BW				6/14/2023			6/14/2023	PASSED
										6/30/2023	PASSED
	2		BW				6/9/2023				PASSED
										6/12/2023	PASSED
	3		SW				6/22/2023				PASSED
										6/29/2023	PASSED
	4		SW				6/22/2023				PASSED
										6/29/2023	PASSED
	5		SW				6/22/2023				PASSED
										6/29/2023	PASSED
	6		SW				6/22/2023				PASSED
										6/29/2023	PASSED
	7		SW				6/22/2023				PASSED
										6/29/2023	PASSED
	1		BW				6/16/2023			6/16/2023	PASSED
										6/30/2023	PASSED
	2		BW				6/9/2023				PASSED
										6/12/2023	PASSED
	3		SW				6/28/2023			6/30/2023	PASSED
											PASSED
	4		SW				6/28/2023			6/30/2023	PASSED
											PASSED
	5		SW				6/28/2023			6/30/2023	PASSED
											PASSED
	6		SW				6/28/2023			6/30/2023	PASSED
											PASSED
	7		SW				6/28/2023			6/30/2023	PASSED
	1		BW				6/30/2023				PASSED
										7/5/2023	PASSED
	2		BW				6/30/2023				PASSED
										7/5/2023	PASSED
	3		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	4		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	5		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	6		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	7		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	1		BW				6/14/2023				PASSED
										7/5/2023	PASSED
	2		BW				6/15/2023				PASSED
										7/5/2023	PASSED
	3		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	4		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	5		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	6		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	7		SW				6/21/2023				PASSED
										6/29/2023	PASSED
	1		BW				6/14/2023				PASSED
										7/5/2023	PASSED
	2		BW				6/15/2023				PASSED
										7/5/2023	PASSED
	3		SW				6/21/2023				PASSED
										6/29/2023	PASSED

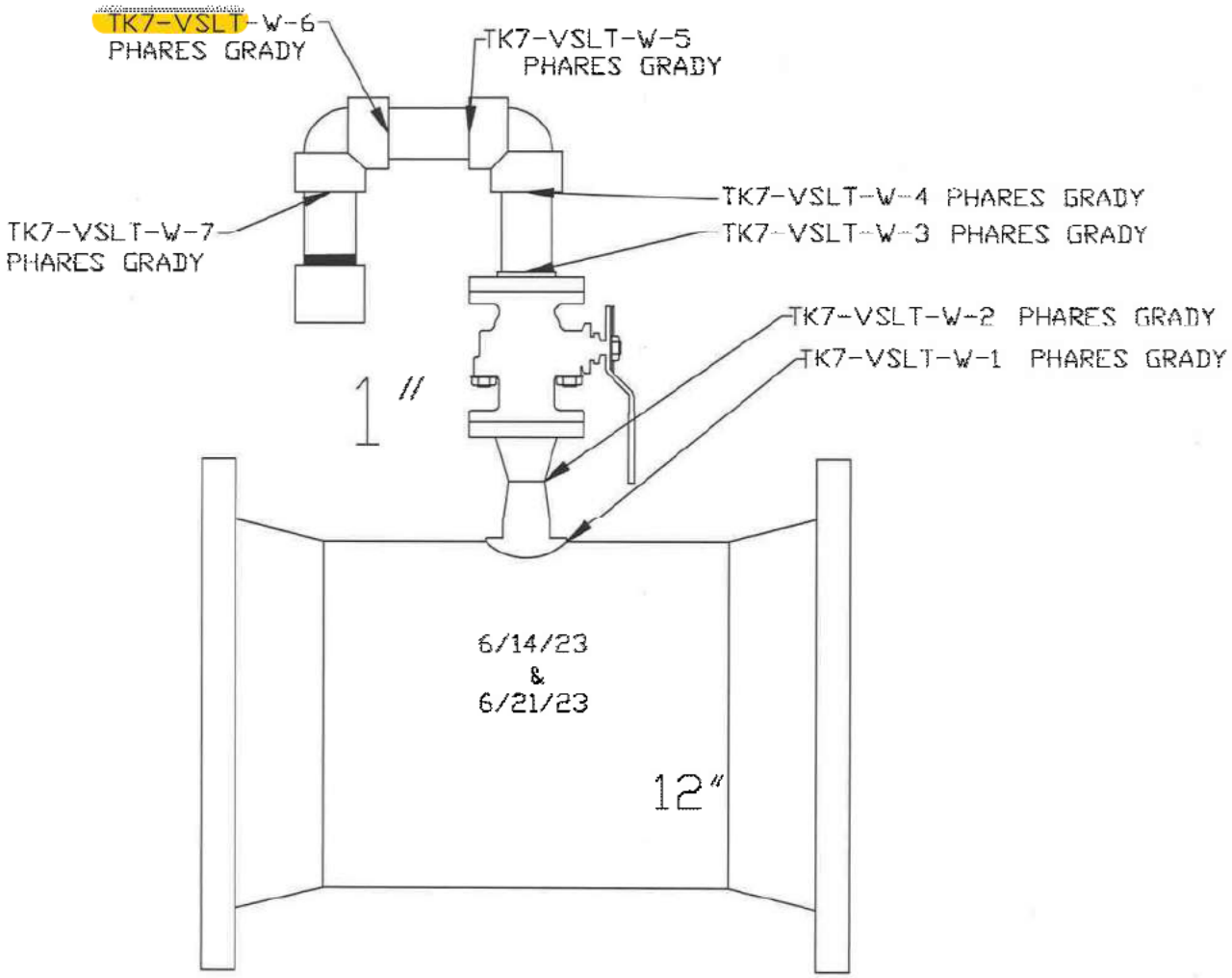
WELD INFORMATION								INSPECTION INFORMATION		
Weld ID	Number	SIZE	TYPE	JOINT		JOINT	WELDER ID	DATE	INITIALS	DATE	RESULTS
(b) (3) (A)	4	(b) (3) (A)	SW	(b) (3) (A)			(b) (6)	6/21/2023	(b) (3) (A)		PASSED
										6/29/2023	PASSED
	5		SW					6/21/2023			PASSED
										6/29/2023	PASSED
	6		SW					6/21/2023			PASSED
										6/29/2023	PASSED
	7		SW					6/21/2023			PASSED
										6/29/2023	PASSED
	1		BW					6/30/2023			PASSED
										7/5/2023	PASSED
	2		BW					6/30/2023			PASSED
										7/5/2023	PASSED
	3		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	4		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	5		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	6		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	7		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	1		BW					6/15/2023		6/15/2023	PASSED
										6/30/2023	PASSED
	2		BW					6/9/2023			PASSED
										6/12/2023	PASSED
	3		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	4		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	5		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	6		SW					6/22/2023			PASSED
										6/29/2023	PASSED
	7		SW					6/22/2023			PASSED
										6/29/2023	PASSED


TK3-VSLT-W-6
PHARES GRADY
TK3-VSLT-W-5
PHARES GRADY
TK3-VSLT-W-4
TK3-VSLT-W-3
TK3-VSLT-W-7
PHARES GRADY

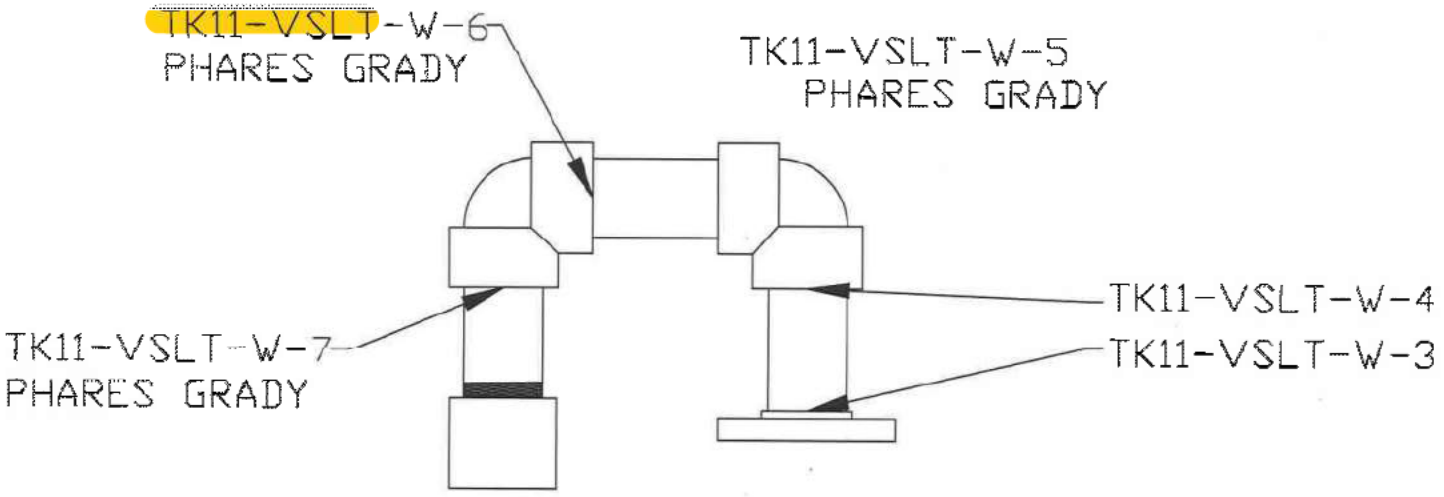
1 //

6/21/23


TK3-VSLT-W-2 PHARES GRADY
TK3-VSLT-W-1 PHARES GRADY
1 //
6/30/23
12"

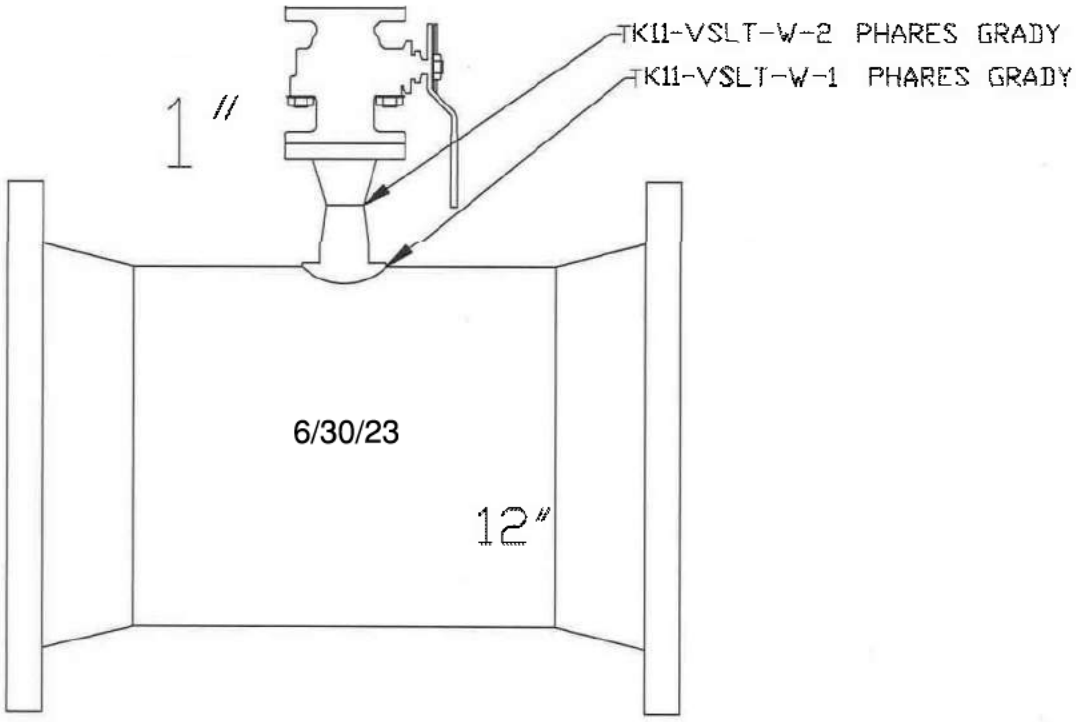

TK7-VSLT-W-6
PHARES GRADY
TK7-VSLT-W-5
PHARES GRADY
TK7-VSLT-W-4 PHARES GRADY
TK7-VSLT-W-3 PHARES GRADY
TK7-VSLT-W-7
PHARES GRADY
TK7-VSLT-W-2 PHARES GRADY
TK7-VSLT-W-1 PHARES GRADY
1 //
6/14/23
&
6/21/23
12"

(b) (3) (A)


TK11-VSLT-W-6
PHARES GRADY
TK11-VSLT-W-5
PHARES GRADY
TK11-VSLT-W-4
TK11-VSLT-W-3
TK11-VSLT-W-7
PHARES GRADY

1 //

6/22/23


TK11-VSLT-W-2 PHARES GRADY
TK11-VSLT-W-1 PHARES GRADY
1 //
6/30/23
12"

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034
Report No.: 6570523
Date: 7/5/23
Page 1 of 2

FORM NDT-005.1

(b) (4)

CUSTOME		CUST JOB#	SPECIFICATION ASME V	ACCEPTANCE ASME B31.3	
PROJECT Redhill 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
SC			YPE 1B	TECHNIQUE USED 3	THICKNE
FC			ATERIAL SS	EXPOSURE TIME 40 Sec	JOINT TY
SF			OCATION F	PROCESSING ☒ MANUAL ☐ AUTOMATIC	PIPE DIA

(b) (3) (A)

(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	R.I.	Film Artifact	REMARKS
		.020	✓												
			✓												
			✓												
			✓												
		.020	✓												
			✓												
			✓												
		.020	✓												
			✓												
			✓												
			✓												

(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)

II
SNT-TC-1A Level

7/5/23
Date of Inspection

Customer

(b) (4)

RADIOGRAPHIC INSPECTION REPORT

(b) (4)

W. O. No.: 23-034

Report No.: 6S70523

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)		.020	X												(b) (3) (A)
		.020	X												
		.020	X												
		.020	X												
		.020	X												

(b) (6)

II

7/5/23

-1A Level

Date of Inspection

[redacted]

LIQUID PENETRANT EXAMINATION RECORD

Client: [redacted]	Location: Red Hill	Page 1 of 3
P.O. No.: [redacted]	Job No.: 23-034	
Procedure: NDT002.2 Rev C	Code: ASME B31.3	
Report No. GS062923		

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		[redacted] Control #	UV Meter ☐ N/A ☐

	Accept	Reject	Sketch/Notes
	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	

Performed By: [redacted] Level III Date: 6/29/2023

Reviewed By: Date:

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

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

	Location: Red Hill	Page 2 of 3
	Job No.: 23-034	
NDT002.2 Rev C	Code: ASME B31.3	
Report No: GB002923		

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) trol # UV Meter ☐ N/A ☐

(b) (3) (A)

Item(s)	Accept	Reject
	☒	☐
	☒	☐
	☒	☐
	☒	☐
	☒	☐
	☒	☐
	☒	☐
	☒	☐
	☒	☐
	☒	☐

Sketch/Notes

No indications noted at time of inspection.

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

Reviewed By: Date:

(b) (4)

(b) (3) (A)

LIQUID PENETRANT EXAMINATION RECORD

	Location: Red Hill	Page 1 of 1
	Job No.: 23-034	
T002.2 Rev C	Code: ASME B31.3	
023d		

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) UV Meter ☐ N/A ☐

(b) (3) (A)

	Accept	Reject	Sketch/Notes
	☒	☐	No indications noted at time of inspection.
	☒	☐	
	☒	☐	
	☒	☐	
	☒	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

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

Reviewed By: Date:

[redacted]

HYDROSTATIC TEST FORM

CLIENT: [redacted]

SYSTEM:

Project Name: **Red Hill Emergent Pipeline**

System Description: [redacted]

Starting point

Connection Point

Ending point

PSI Req.: 4 hours

Start of Test Period: Time: 14:48 hrs Date: 8/2/2023

End of Test Period: Time: 18:48 hrs Date: 8/2/2023

No.	Time	PSI READING	Remarks
1	14:48	[redacted]	Pic taken; no visual leaks detected during test
2	15:03		no visual leaks detected during test
3	15:18		no visual leaks detected during test
4	15:33		Pic taken; no visual leaks detected during test
5	15:48		no visual leaks detected during test
6	16:03		no visual leaks detected during test
7	16:18		no visual leaks detected during test
8	16:33		Pic taken; no visual leaks detected during test
9	16:48		no visual leaks detected during test
10	17:03		no visual leaks detected during test
11	17:18		no visual leaks detected during test
12	17:33		Pic taken; no visual leaks detected during test
13	17:48		no visual leaks detected during test
14	18:03		no visual leaks detected during test
15	18:18		no visual leaks detected during test
16	18:33		no visual leaks detected during test
17	18:48		End test, picture taken, no visual leaks

PSI Gauge Manufacturer: Ashcroft 0-600

Test Witness Client: [redacted]

Test Witness OCI Rep. [redacted]

RD Technology of Hawaii
134 Nakolo Place
Honolulu, HI 96819
(808) 833-3499

Certificate of Calibration

(b) (4)

Ashcroft	0-600 PSI
Manufacturer	**Model**
32488	Pressure Gauge
Serial Number	**Description**
02/28/2023	182,039
Calibration Date	**Test Number**
02/28/2024	
Recalibration Due	**Asset Number**
(b) (4)	23 °C / 43 % RH
Instrument Accuracy / Procedure	**Temperature** / **Humidity**

RD Technology of Hawaii's quality management system conforms to ISO/IEC 17025:2005, ANSI/NCSL Z540-1-1994, and MIL-STD-45662A. All calibrations are performed using internationally recognized standards traceable to the International System of Units (SI Units). Traceability is achieved through calibrations by the National Institute of Standards and Technology (NIST), other National Measurement Institutes (NMI's), or by using natural physical contants, intrinsic standards, or ratio calibration techniques. There is no expressed or implied warranty that the above instrument will maintain its specificied tolerances during the calibration interval due to possible drift, environment, or other factors beyond the control of RD Technology of Hawaii.

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.	INC-033
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	Spool.203
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 JUL 2023
QV Engine	(b) (6)		

Source	PDF Page No.	Facility Geographic Area	Location Reference
FLC	N/A	(b) (3) (A)	

Repair Description	(b) (3) (B)	Source Contract Reference	[redacted]
Description of Contractor QC Method(s) Used	Methods outlined in QCP. Contractor used B31.3 Class I piping codes as a basis for the hydrostatic testing of the spool.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	QA methods outlined in QASP. JTF-RH secondary QA and 3rd Party QV completed. JTF-RH QV visually inspected repair & reviewed contractor QC documentation. Final acceptance by government. Date: 12 JUL 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	10 AUG 2023 / Rev1

(b) (3) (A)

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

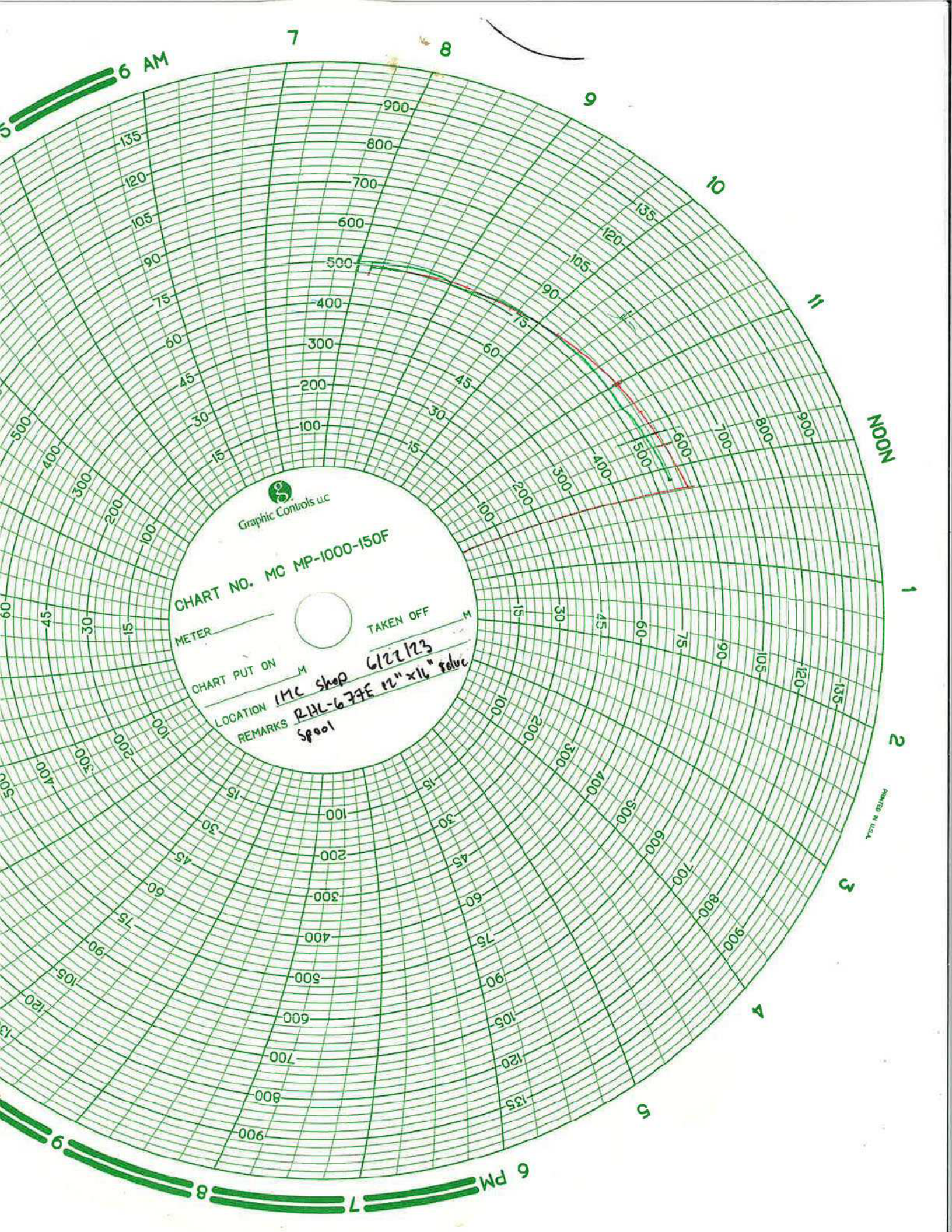
Client: (b) (4)	Location (b) (4)	Page 1 of 1
(b) (4)	Job No.: 23-157	
Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS062023		

ITEM: 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
Reducing Spool Socket Welds			PT Inspection performed on the reducing spools socket welds for the high and low points. Project RHL-677E No relevant indications noted.
High Point	☒	☐	
Low Point	☒	☐	

Performed By (b) (6)	Level II	Date: 06-22-23	Reviewed By: Date:


6 AM
7
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NOON
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4
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6 PM
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9
Graphic Controls LLC
CHART NO. MC MP-1000-150F
METER
TAKEN OFF
M
CHART PUT ON
M
LOCATION I&C Shop 6/22/23
REMARKS RHL-677E 12" x 16" Relief Spool
PRINTED IN U.S.A.

(b) (4)

LIQUID PENETRANT EXAMINATION RECORD

Client (b) (4)	Location: (b) (4)	Page 1 of 1
P.O. No.: 62252-108	Job No.: 25-197	
(b) (4) Procedure: NDT-002.2 Rev A	Code: ASME B31.3	
Report No. KS062623		

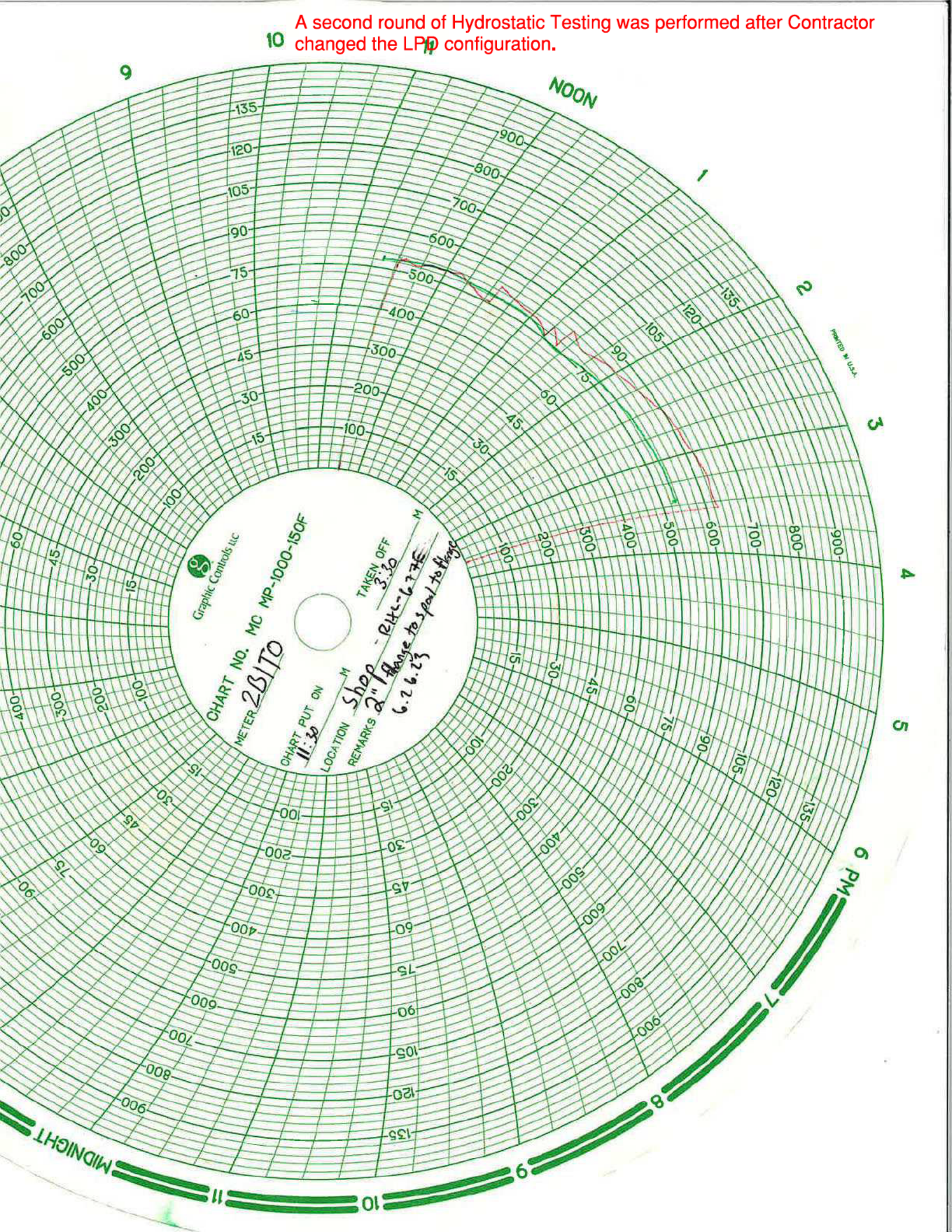
ITEM: Socket Welds

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
Reducing Spool Socket Weld			PT Inspection performed on the reducing spool socket welds for the revamped low point drain. Project RHL-677E No relevant indications noted. A second round of PT was performed after Contractor changed the LPD configuration.
Low Point Welds #1-#4	☒	☐	

Performed B (b) (6) Level II Date: 06-26-23 | Reviewed By: Date:

A second round of Hydrostatic Testing was performed after Contractor changed the LPD configuration.



Relief - Quality Validation Report

ENSURING A FREE AND OPEN INDO-PACIFIC

NO.	Validation Complete	Date	Location

Testing & Inspection Dates

ENSURING A FREE AND OPEN INDO-PACIFIC

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

Around the Horn

ENSURING A FREE AND OPEN INDO-PACIFIC

AGENCIES:

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