

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	FOR Check Valve
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	N/A
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 OCT 2024
QV Engineer	(b) (6)	Phone	(b) (6)
		Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
RMMR	N/A	FOR Line: Adit 3	PSF 18-19
Repair Description	Modify FOR piping ahead of Adit 3 ball valve to allow check valve installation, replace failed Victaulic coupling gasket.		Source Contract Reference 47QSHA18D000Y W912DY21F0025 Service Order 722E
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP. Pipe welds receive 100% VT and Shear Wave Ultrasonic Testing (SWUT). Pipe segments hydrostatically tested above 150 PSI for 4 hours. Post-installation leak detection testing.		Contractor QC Records Reviewed QCP and Daily Reports.
Description of QA Validation and Observations	QA methods outlined in QASP. NCTF-RH secondary QA and 3rd Party QV completed. Visually inspected completed installation and materials. Reviewed NDE reports. Verified check valve flow orientation. NCTF-RH QV reviewed vendor cut sheets for installed materials, hydrostatic testing, welder qualifications and NDE results. Final acceptance by government. Date: 28 OCT 2024		
Rework Needed		Photo Record Attached	Repair Work Validated as Complete
<input type="radio"/>	Yes	<input checked="" type="radio"/>	No
		See Pages 2-4.	<input checked="" type="radio"/> Yes <input type="radio"/> No

Comments

Contractor removed (b) (3) (A) diameter FOR piping segment from the leaking Victaulic coupling at PSF 19 to coupling at PSF 18. To prevent potential backflow from Tank S311, a swing check valve was installed in a replacement pipe segment. Contractor performed 100% VT and SWUT on pipe welds. Touch-up coating was applied after installation. Verified check valve flow orientation. New Victaulic couplings with Type T fuel-compatible Nitrile gaskets installed.

NDE result table, NDE inspection reports and pressure testing log included for reference. FOR line leak detection test results provided under separate cover.

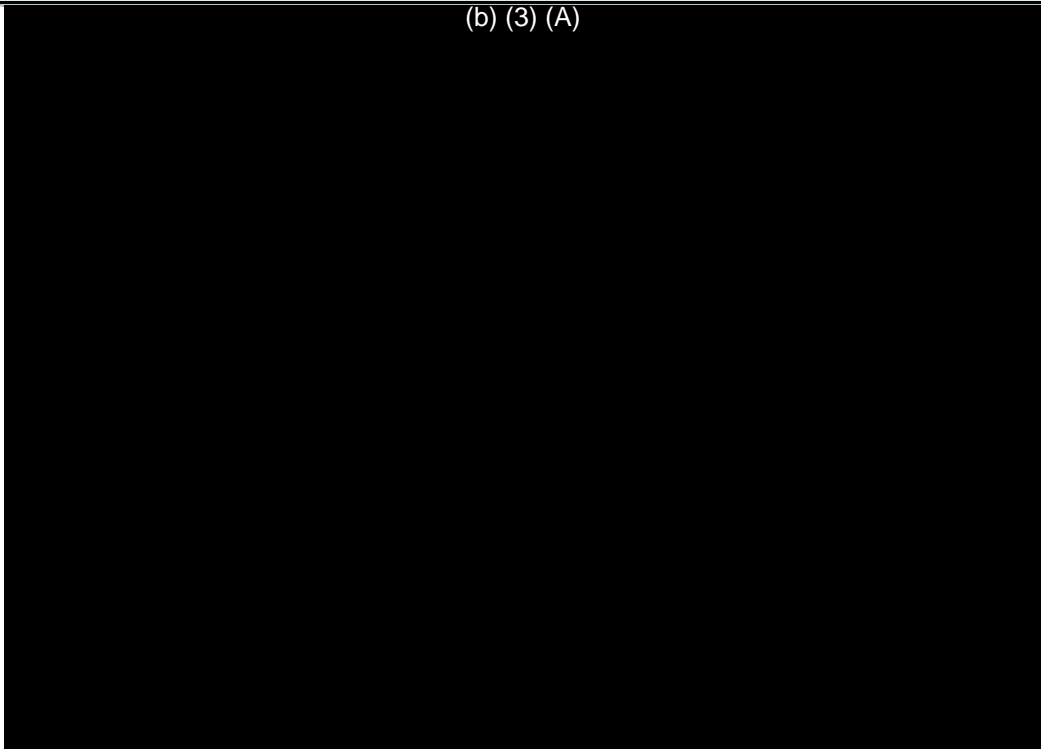
CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 OCT 2024

QUALITY ASSURANCE VALIDATION REPORT

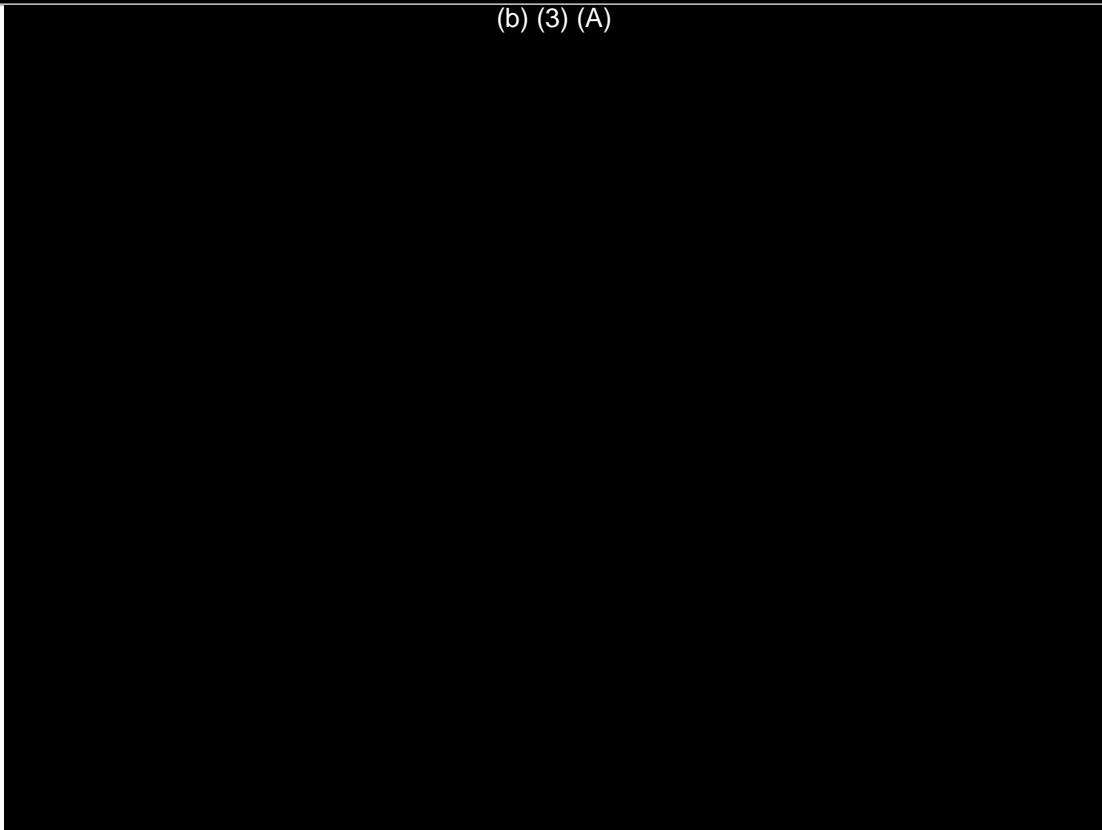
Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)



View of PSF 19 leak location after removal of Victaulic coupling. Gasket intact; no obvious damage.

(b) (3) (A)

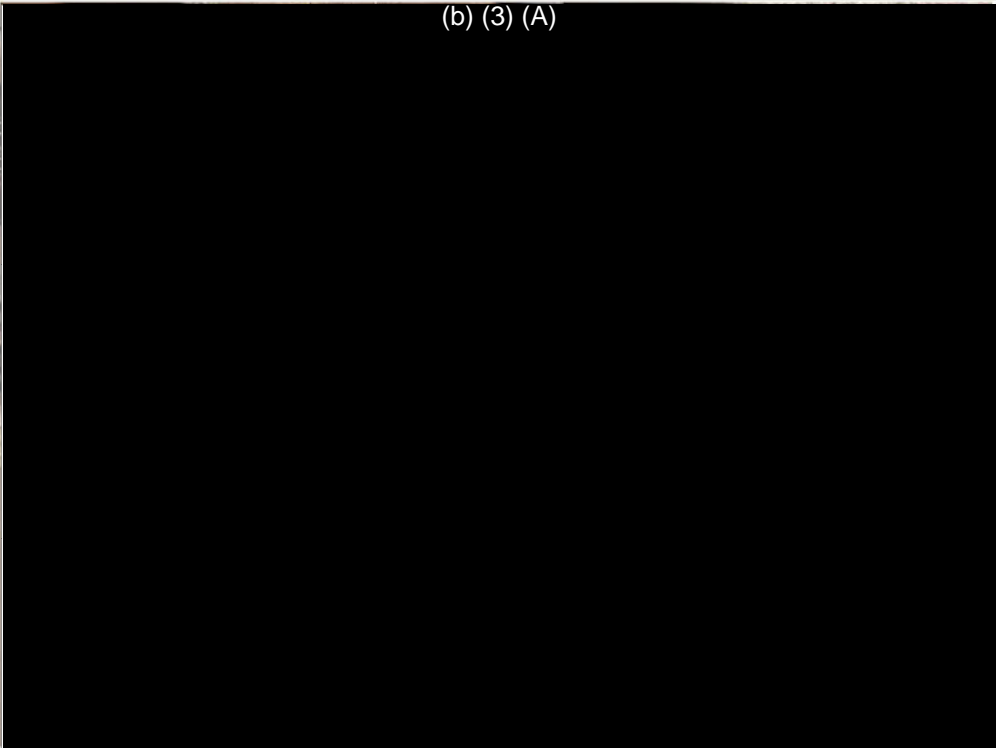


New swing type check valve. Flow orientation noted for installation.

QUALITY ASSURANCE VALIDATION REPORT


Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)



Contractor installed (b) (3) (A) swing check valve. Verified check valve flow orientation towards Tank S311.

(b) (3) (A)

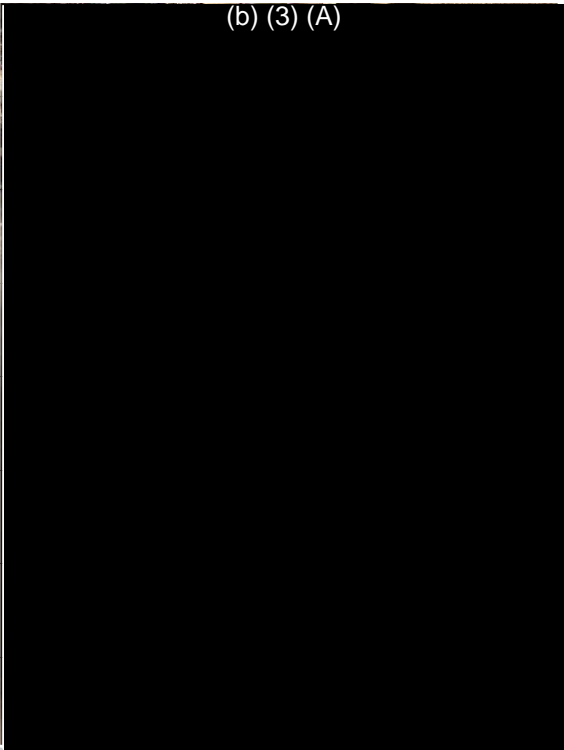


Installation of new couplings, gaskets, and check valve. Existing pipe stub awaiting demolition.

QUALITY ASSURANCE VALIDATION REPORT

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(b) (3) (A)



Contractor applies to Macropoxy 646 epoxy coating to new pipe segments.

(b) (3) (A)




Photo of completed installation with pipe strap clamps.



819 Moowaa Street, Unit 203, Honolulu, HI 96819 PHONE: 808-841-0030 WWW.INSPECTESTING.COM

Condition Found Report

CFR #: 9284

SUBMITTED 10/10/2024	SHIP/HULL # FOR PIPELINE	JOB # 45336	CONTRACT NUMBER N/A	GWO# N/A
REQUEST ANSWER BY 3 DAYS	SURVEYOR N/A	WORK ITEM # N/A	PARA REF# N/A	TIP ID # N/A
ITEM TITLE ACCOMPLISHED A (VT) VISUAL AND (UTSW) ULTRASONIC SHEARWAVE INSPECTION FOR PIPELINE.				
TYPE OF REPORT Required Report with Attachments		BRIEF DESCRIPTION PERFORMED A (VT) VISUAL AND (UTSW) ULTRASONIC SHEARWAVE INSPECTION ON THE FINAL WELD.		
COMPARTMENT / LOCATION OF WORK CLARK'S PETROLEUM SHOP		STATE CHANGES TO INTERNAL OR CONTRACTUAL MILESTONES NONE		

PROBLEM OR CONDITION DESCRIPTION OF WORK REQUIREMENTS IAW

DRAWING; WORK ITEM INSTRUCTIONS STANDARD ITEM OTHER

KTR SUBMITS REQUIRED REPORT IAW CLARK'S PETROLEUM ID #N/A, CLARK'S PETROLEUM CHECK POINT #N/A, PARAGRAPH #N/A

PERFORMED A (VT) VISUAL AND (UTSW) ULTRASONIC SHEARWAVE INSPECTION ON THE FOLLOWING ITEM(S):

VT ACCEPTABLE FOR : 4 EA. BUTT-WELDS.

UTSW ACCEPTABLE FOR : 4 EA. BUTT-WELDS.

Accept required report

RESPONSE FROM SUPERVISOR PHNSY C/400

RESPONSE IS SUBMITTED AS:

APPROVED BY SUPERVISOR

DATE:

DISTRIBUTION FILE, CONT, QA INSPEC TESTING	ORIGINATOR (b) (6)	SHOP INSPEC TESTING	P. M. APPROVAL <input checked="" type="checkbox"/>
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For Inspec Testing Use ONLY:

OP Manager:	NDT Level III:
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Enclosure (1)



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NONDESTRUCTIVE INSPECTION REPORT

NDT-15 REV-0 VISUAL NDT-11 REV-1 LIQUID PENETRANT NDT-16 REV-0 MAGNETIC PARTICLE

DATE: OCTOBER 9, 2024 I.T. JOB #: 45336
 CUSTOMER: CLARK'S PETROLEUM PURCHASE ORDER: N/A
 SHIP: FOR PIPELINE CONTRACT: N/A
 WORK ITEM: N/A PARAGRAPH: N/A
 MOD/IDR#: N/A SPEC #: N/A
 MATERIAL TYPE/ SPECIFICATION (IF KNOWN) STL

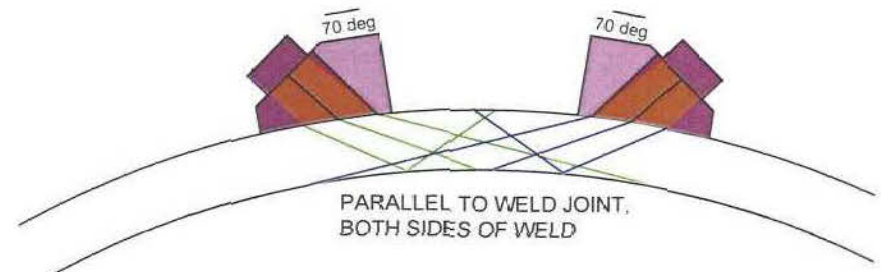
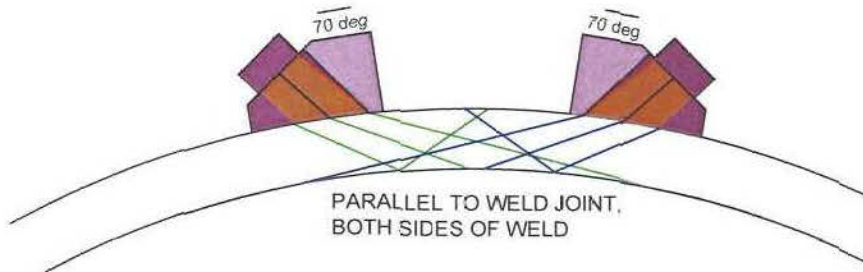
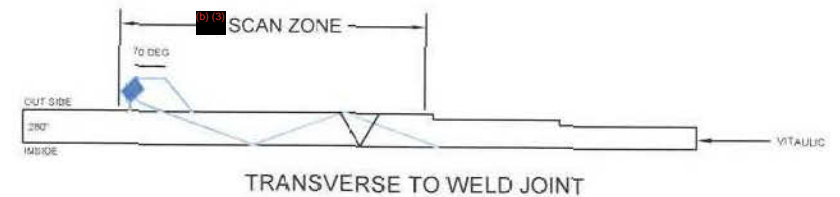
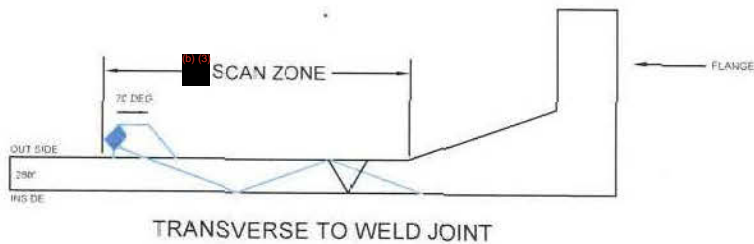
LOCATION / IDENTIFICATION OF ITEM INSPECTED: CLARK'S PETROLEUM SHOP

STD/SPECS	AREA/IDENTIFICATION OF INSPECTION	ACC	REJ
ASNT-TC-1A: 2011 <input checked="" type="checkbox"/>	PERFORMED A (VT) VISUAL AND (UTSW) ULTRASONIC SHEARWAVE INSPECTION ON THE FOLLOWING ITEM:		
ASME B31.3 <input checked="" type="checkbox"/>	"FINAL WELD"		
<input type="checkbox"/>	FOR PIPELINE:		
<input type="checkbox"/>	-2 EA. (b) (6) PIPE CARBON STEEL SCH 40 FLANGE BUTT-WELD:	X	
<input type="checkbox"/>	-2 EA. (b) (6) PIPE CARBON STEEL SCH 40 VITAUIC BUTT-WELD:	X	
CLASS <u>N/A</u>			
LIQUID PENETRANT			
AMS 2644 _____			
TYPE: _____			
METHOD: _____			
FORM: _____			
MFG: _____			
MAGNETIC PARTICLE			
P-90 <input type="checkbox"/>			
YOKE <input type="checkbox"/>			
MFG: _____			
METHOD			
WET <input type="checkbox"/> DRY <input type="checkbox"/>			
AC <input type="checkbox"/> DC <input type="checkbox"/>			
LONG <input type="checkbox"/> CIRC <input type="checkbox"/>			
PARTICLES: _____			
CURRENT: _____			
CALIB: _____			
	INSPECTOR: (b) (6)		

INSPEC TESTING

819 MOOWAA ST. #203, HONOLULU, HI 96817 (808)841-0030 FAX (808)841-0031
REPORT OF ULTRASONIC SHEARWAVE INSPECTION

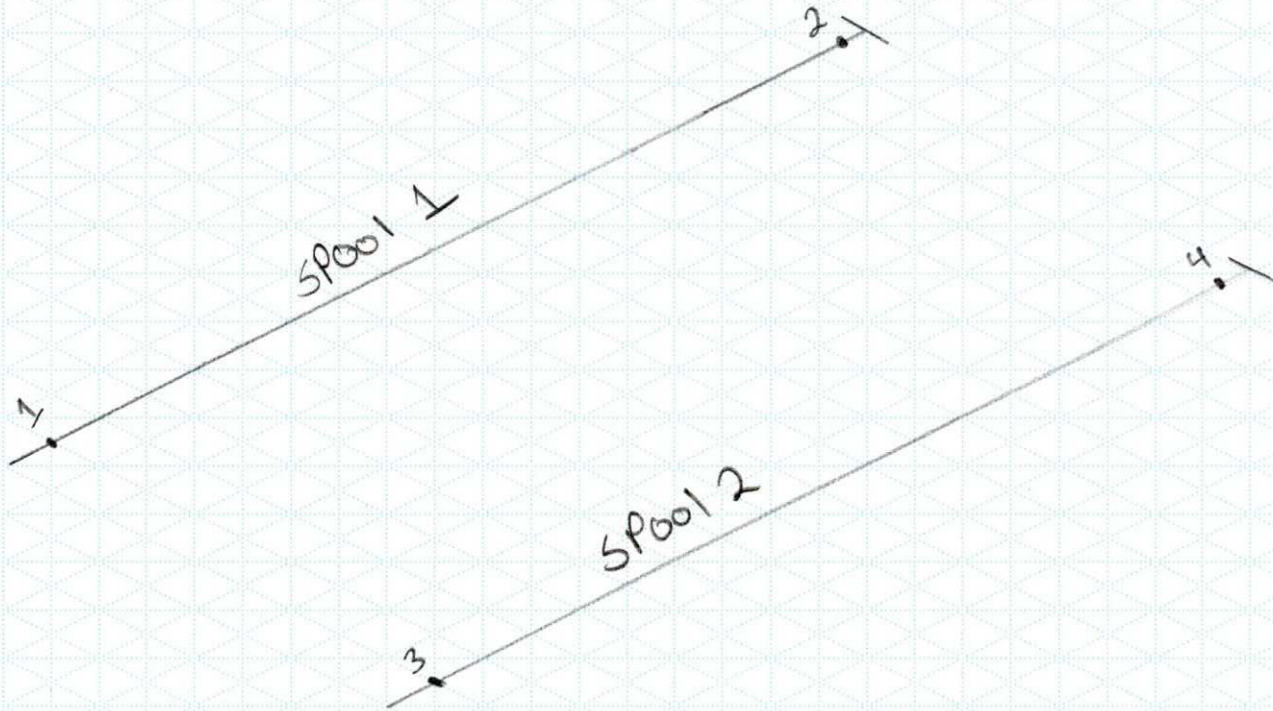
Project: FOR PIPELINE		FRAME: N/A	PORT: N/A	STBD: N/A	LOCATION: CLARK'S PETROLEUM SHOP		MATERIAL: CARBON STL	DATE: 10/9/2024	IT JOB#: 45336
INSTRUMENT MANUFACTURE: GE		SERIAL #: 9110503	MODEL: USM GO	GAIN: 91 dB	CUSTOMER: CLARK'S PETROLEUM		CUSTOMER JOB#: N/A		PO#: N/A
INSTRUMENT MANUFACTURE: N/A		SERIAL #: N/A	MODEL: N/A	GAIN: N/A	CONTRACT #: N/A		SPECIFICATION #: N/A		
TRANS S/N: U123Y2	TYPE: SINGLE	FREQUENCY: 5 MHz	SIZE: 1"	ANGLE: 70	WORK ITEM #: N/A		PARAGRAPH #: N/A		
TRANS S/N: 01Y7N1	TYPE: SINGLE	FREQUENCY: 10.0 MHz	SIZE: 1/2"	ANGLE: STRAIGHT	MODIFICATION #: N/A		ACCEPTANCE CRITERIA: ASME B31.3-2016 CH 4, PARA 344.5.2		
RANGE: 125"-1,500" / 155"-995"	CALIBRATION BLOCK SERIAL #: SN 08-6886/IT-005		COUPLANT: ULTRA GEL II		PROCEDURE: IT NDT 13 REV 0 / IT-NDT-15 REV 0		WELD DISPOSITION: VT ACC <input type="checkbox"/> UT ACC <input type="checkbox"/> UT REJ <input type="checkbox"/>		
(b) (6)		(b) (6)		(b) (6)		(b) (6)			
<p>VISUAL INSPECTION TO INCLUDE 100 % OF PIPING BUTT WELDS</p> <p>REMARKS: (b) (3) (A) OD CARBON STEEL SCH 60 (1.280" THICKNESS) SEE DRAWINGS FOR MORE INFO</p>									



COMPANY Mech Co
CUSTOMER Clarks
SUBJECT F.O.R. Line

DATE 10-03-2024
DWG. NO. 1
DRAWN BY (b) (6)

SHEET NO. 1 OF 1
REV. 0
OTHER _____





Quality Testing Services, LLC
 2510-A Washington Street
 Huntsville, AL. 35811
 Voice: 256/ 519-6909 Fax: 256/ 519-6908

WELDER PERFORMANCE QUALIFICATION TEST RECORD

Customer: MechCo Group, LLC Welder Name: (b) (6) ID No.: 0039

WPS No.: AFC-GTA/SMA-1 Rev.: 0 Date: 11/20/2009 Code/Spec.: ASME Section IX & ASME B31.3

VARIABLES

Welding Process:
 Process Type:
 Test Position & Progression:
 Material Specification:
 Group or P No.:
 Backing:
Sheet / Plate:
 Groove / Thk.
 Penetration (Complete or Partial)
 Fillet / Thickness
Tube / Pipe:
 Size / Diameter
 Groove / Thk.
 Penetration (Complete or Partial)
 Fillet / Thickness
Filler Metal:
 Spec No.
 Class

 F-No. / Size-Diameter
 Shielded Gas & Flow Rate / Flux Type
 Purge or Backing Gas & Flow Rate
Electrical Characteristics:
 Current / Polarity
 AMPS / VOLTS

 Single / Multiple Electrodes
 Single / Multiple Pass-Weld

<u>USED IN QUALIFICATION</u>	<u>QUALIFICATION RANGE</u>
GTAW & SMAW	GTAW & SMAW
Manual	Manual
6G-	Plate & Tube: ALL Positions
A-36 Carbon Steel	Carbon Steel – Group 1
Group 1 to Group 1 (P No. 1 to P No. 1)	Group 1 (P No. 1) – Carbon Steel
Without Backing	With or Without Backing
N/A	0.108” to 0.432”
N/A	Complete & Partial & Fillet
N/A	Unlimited
(b) (3) (A) OD SCH 40	2.875” to Unlimited dia.
(b) (3) (A)	.108” to 0.432”
Complete	Complete & Partial Joint & Fillet
N/A	Unlimited
A5.18 & 5.1 (F-6 & F-1)	A5.18 & 5.1 (F-6 & F-1)
ER70S-2 & E7018	ER70S-2 & E7018
(b) (3) (A) Diameter	.062” - .125” Diameter
Argon 100% 20 CFH	Argon 100% 16 thru 30 CFH
N/A	N/A
DCEN & DCEP	DCEN & DCEP
Amps: 105 & 95 Volts:	Amps: 95 – 115 & 86 - 104
Single	Single
Multiple	Single or Multiple

VISUAL INSPECTION - Appearance: Acceptable **Weld size:** Acceptable **Undercut:** None **Porosity:** None

RADIOGRAPHIC - N/A [] Pass [X] Fail [] **Film ID:** 2466-058 **BEND –** N/A [X] Pass [] Failed []

FILLET WELD TEST: METALLOGAPHC – N/A [X] Pass [] Fail [] **LEG SIZE:** _____ in. X _____ in.

TEST CONDUCTED BY: Quality Testing Services, LLC **DATE:** 03/11/2021 **Lab Test No.:** 2466-058

Test Witnessed By: _____ **Test Interpreted By:** (b) (6)

The above named individual is qualified IAW ASME Section IX & ASME B31.1 Specifications within the limits for the welding process used for this test. The under signed, certify that the statements in this record are correct and that the weldments were prepared, welded and tested IAW the above welding procedure (WPS).

Authorized By: _____ Date: _____



POH Hydrostatic / Pneumatic Pressure Test Log

Pipeline Operator	Testing Company
Navy Closure Task Force Red Hill Tank Site Aiea, HI 96701	Clarks Petroleum 852 Mapunapuna St Honolulu, HI 96819 (808)833-7876

Pipeline Operator Representative (FMSR)	Pond Site Manager
(b) (6)	(b) (6)

Test Equipment	Make	Model Number	Serial Number	Date Last Cal.
High Pressure Pump System / Regulator	Vaetrix	VX-VRTD-025FT	232965-4-4	9/16/2024
Test Pressure Gauge	Fluke	5616	3428	New
Infrared Thermometer	GT Industries	IRT205	60825-1	New
Ambient Thermometer	Fluke	1524	3429	New

Identification	Location / Facility	Last Test Date	Manufacturer	Pipe Material
	Red Hill Adit 3	5/28/2019		Carbon Steel

Test Medium	Test Time	Test Pressure	Design Pressure	MAWP	Test Connection Location
Water	4 Hours	150		100	Clarks Petroleum

Reason for Test:	Annual	New	Replacement	Repair	5-Year
				X	

Type of Test:	Hydrostatic (150%)	Pneumatic (125%)	Isolation Valve:	
	X			N/A

Time 12-hr format	Elapsed Time (Minutes)	Pressure	Temperature Ambient	Temperature IRT@MLA	Bleed (gal) (+) Add / (-) Drained
2:30:00 PM	0	150	73	N/A	0
2:45:00 PM	15	161.83	110	N/A	0
3:00:00 PM	30	159.75	95.3	N/A	0
3:15:00 PM	45	158	91.7	N/A	0
3:30:00 PM	60	157.02	90.5	N/A	0
3:45:00 PM	75	156.39	90.6	N/A	0
4:00:00 PM	90	157.92	95	N/A	0
4:15:00 PM	105	159.31	95.8	N/A	0
4:30:00 PM	120	155.79	95.1	N/A	0
4:45:00 PM	135	155.41	95.3	N/A	0
5:00:00 PM	145	158.32	97.1	N/A	0
5:15:00 PM	150	156.65	100.8	N/A	0
5:30:00 PM	165	157.4	93.2	N/A	0
5:45:00 PM	180	152.78	86.1	N/A	0
6:00:00 PM	195	153.99	84.1	N/A	0
6:15:00 PM	210	153.21	83.3	N/A	0
6:30:00 PM	225	152.1	82.4	N/A	0

Test Result:
Pass

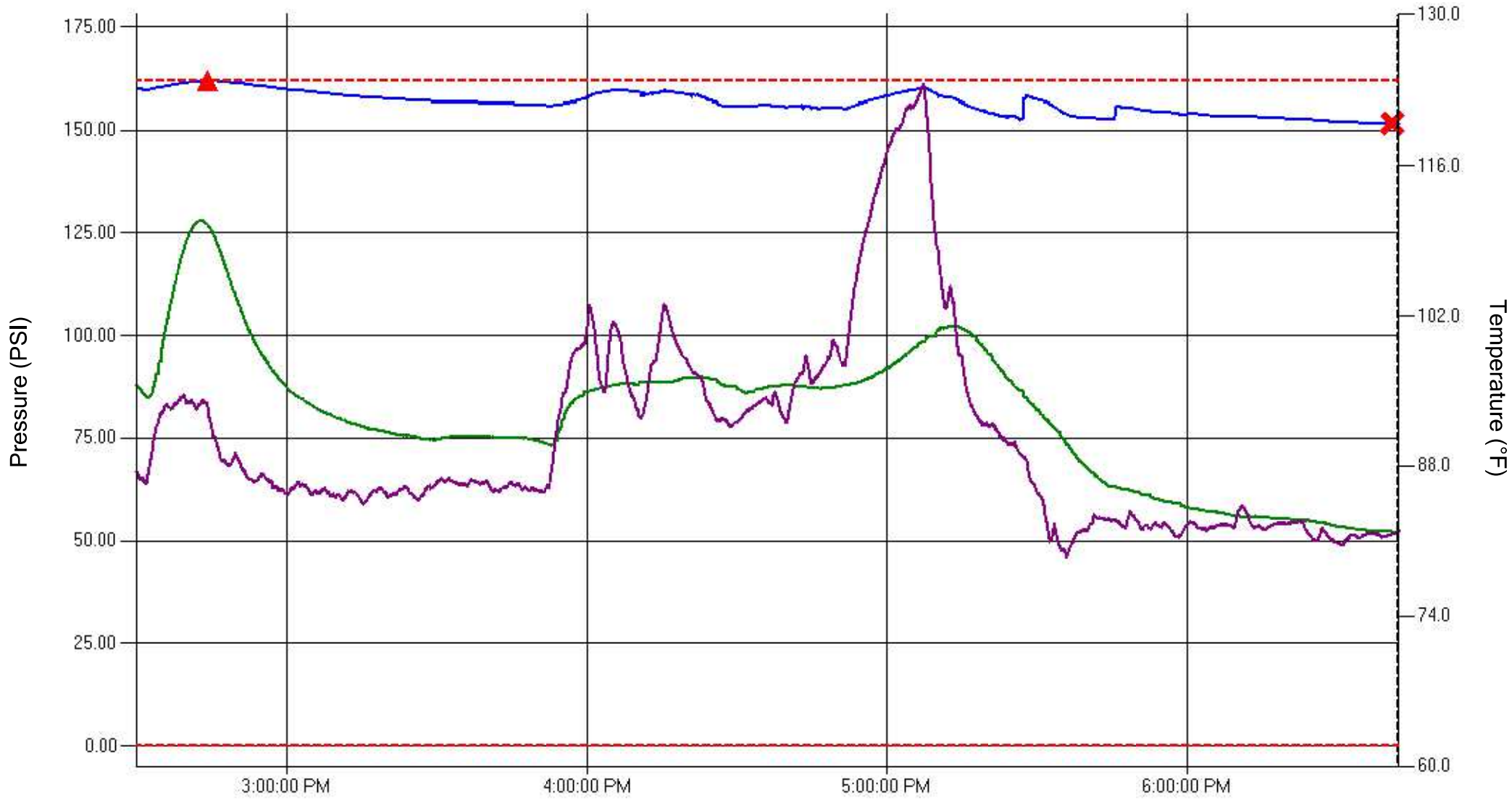
Testing Witness	Company Representative
Name:	Name: (b) (6)
Title:	Title: Pond Project Manager
Date:	Date: 10/11/2024
Signature:	Signature:
	(b) (6)

Pond Constructors Form 217 (6/2020)

Notes:

Weather started at 84 degrees and ended at 80 degrees during testing operations with no precipitation. The testing equipment was in direct sunlight before being moved inside within the first thirty (30) minutes. After attaching the hoses and valves pressured up the spool pieces with water to 150 psi and recorded the readings every 15 minutes for 4 hours.
 During the test clouds formed over the testing location and recorded temp fluctuations.

Pond Constructors Form 217 (6/2020)



— Pressure
 — Ambient
 — RTD

Log
 Start: 2:30:09 PM
 End: 6:42:19 PM
 Total Elapsed Time: 4:12:10

Min Max During Test
 ▲ Maximum: 161.86 PSI
 x Minimum: 151.75 PSI

Alarms Settings
 - - - High: 161.86 PSI
 - - - Low: 0.00 PSI

Test Window
 Start: 2:30:09 PM
 End: 6:42:19 PM
 Elapsed Time: 4:12:10