

Project Data Book

Project Number

SAMPLE-01

Project Title

SAMPLE PROJECT 01

Customer

Petro Plants LLC

Generated By : Max Smart, Revision : 2

Control Inc.



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Project Details

Project #	SAMPLE-01	Start Date	23 Sep 2021
Title	SAMPLE PROJECT 01	Labels	O G 1
Customer	Petro Plants LLC	Units	Metric

Administrators	Contributors	Users
-	-	-

In this project data book						
Welds	Drawings	Tags	WPS	Welders	Fitters	Machines
11	1	2	1	2	1	1

Inspection & Testing Requirements for this Project							
VI	RT	UT	MT	PT	DT	PMI	BT
100%	10%	5%	0%	10%	0%	0%	0%

Abbreviations :

NDE:

VI - Visual Inspection
 RT - Radiographic Testing
 UT - Ultrasonic Testing
 MT - Magnetic Particle Testing
 PT - Dye Penetrant Testing
 DT - Destructive Testing
 PMI - Positive Material Identification
 BT - Hardness Testing

ROLES:

WS - Welding Supervisor
 WI - Welding Inspector

WELDS TABLE:

PWI - Pre-Weld Inspection
 IDW - Inspection During Welding
 FI - Post Weld Inspection



Project Notes :

You can add some details about the project here and even images, like a legend for interpreting the weld map symbols.

WPS

WPS #	Rev	Date	Welding Code	Title	File
WPS-SAMPLE-01	0	23 Sep 2021	ASME IX	Sample WPS	WPS-SAMPLE-0...
PQR #	Rev	PQR Date	PQR File		
PQR-SAMPLE-01	0	23 Sep 2021	PQR-SAMPLE-01.pdf		
PQR-SAMPLE-02	0	23 Sep 2021	PQR-SAMPLE-02.pdf		



Welders

Unique Id	Name		Stamp #	Company
WD101	WEL DERR		A1	SPMT
WPQ # - Rev	Date	WPS # - Rev	Report	File
WD101-01-0	23 Sep 2021	WPS-SAMPLE-01-0	SR 1	WPQ-SAMPLE-01.pdf
WD101-02-0	1 Aug 2021	WPS-02-0	TR 001	

Unique Id	Name		Stamp #	Company
JR1	JASON ROSE		OO	Control Inc.
WPQ # - Rev	Date	WPS # - Rev	Report	File
JR1-SMAW-01-0	2 Aug 2021	WPS-02-0	SR 2	WPQ-SAMPLE-02.pdf
JR1-02-0	1 Aug 2021	WPS-SAMPLE-01-0	TR 01	WPQ-SAMPLE-02.pdf

Drawings

Drawing # - Rev	Title	Tag #	Date
SPMT-ENG-P-DRG00001 - 0	Sample Drawing	0	23 Sep 2021
Service	Area	Criteria	File
Cooling Water r	Utilities	PN10	SPMT-ENG...



Weld Map Drawings

Drawing Number	Page Numbers
SPMT-ENG-P-DRG00001_0	Page1

Welds List

Tag number	Title	Equipment # / Line # / Class	Dwgs					
XT-01	Example Tag 01	FS101 / L 100 / 150	1	11	3	3	4	2

Drawing number - Rev	Title	Service / Area / Criteria					
SPMT-ENG-P-DRG00001 - 0	Sample Drawing	Cooling Water / Utilities / PN10	11	3	3	4	2

Weld number	WPS number - Rev	Welder IDs Root / Fill / Cap	Joint type / Size	Ins. result	Test result
12	- -	/ /	BW / 0 (mm)	Planned	-
Welded: - Category: Shop		PT Pack: PTP-2 / 0 , Failed, SR1_0 ; 11 Nov 2021			
12-R1	- -	/ /	BW / 0 (mm)	Planned	-
Welded: - Category: Shop					
123	WPS-SAMPLE-01 0	WD101; / WD101; / WD101; JR1;	BW / 0 (mm)	Allocated	-
Welded: - Material Heat #s: A123456 & A123456 Consumable #s: COM-CONS-01 Machine ID: M-001 Category: Shop		PT Pack: PTP-2 / 0 , Failed, SR1_0 ; 11 Nov 2021			
123-R1	- -	/ /	BW / 0 (mm)	Planned	-
Welded: - Category: Shop					
W-01	WPS-SAMPLE-01 0	WD101; / WD101; / WD101;	BW / 900 (mm)	Inspected	Passed



Welded: 23 Sep 2021 Material Heat #s: HT1234-A & HT1234-A Machine ID: M-001 Category: Shop Custom field 1: P1 Custom field 2: A		VI: PWI Max Smart IDW Max Smart FI Max Smart 31 Oct 2021 RT: Passed, SR1_0, 23 Sep 2021 UT: Passed, SR1_0, 23 Sep 2021 PT: Passed SR1_0; 23 Sep 2021 PT Pack: PTP-1 / 0, Passed, SR1_0; 23 Sep 2021 PWHT Pack: PWHTP-1 / 0, Acceptable, SR1_0; 23 Sep 2021 Comments: Sample weld			
W-02	WPS-SAMPLE-01 0	WD101; / WD101; / WD101;	BW / 900 (mm)	Inspected	Failed
Welded: 23 Sep 2021 Material Heat #s: HT1234-A & HT1234-A Category: Shop Custom field 1: P1 Custom field 2: B		RT: Failed, SR1_0, 23 Sep 2021 PT: Passed SR1_0; 23 Sep 2021 Comments: Sample weld.			
W-02-R1	WPS-SAMPLE-01 0	WD101; / WD101; / WD101;	BW / 120 (mm)	Inspected	-
Fitter: FT1; Welded: 22 Sep 2021 Machine ID: M-001 Category: Shop		VI: PWI Max Smart IDW Max Smart FI Max Smart 3 Nov 2021 RT: -, -, - UT: -, -, -			
W-03	WPS-SAMPLE-01 0	WD101; / WD101; / WD101;	BW / 900 (mm)	Allocated	Failed
Welded: - Material Heat #s: HT1234-A & HT1234-A Category: Shop		RT: Failed, SR1_0, 24 Sep 2021 PT: Passed SR1_0; 23 Sep 2021 PT Pack: PTP-1 / 0, Passed, SR1_0; 23 Sep 2021 Comments: Sample weld			
W-03-R1	- -	/ /	BW / 0 (mm)	Planned	-
Welded: - Category: Shop					
W-04	WPS-SAMPLE-01 0	WD101; / WD101; / WD101;	BW / 900 (mm)	Allocated	-
Welded: - Category: Shop		RT: -, -, - UT: -, -, - PT Pack: PTP-1 / 0, Passed, SR1_0; 23 Sep 2021 Comments: Sample weld.			



W-05	WPS-SAMPLE-01 0	WD101; / WD101; / WD101;	BW / 900 (mm)	Allocated	-
Welded: - Category: Field-fit		UT: -, -, - PT Pack: PTP-1 / 0, Passed, SR1_0; 23 Sep 2021 PWHT Pack: PWHTP-1 / 0, Acceptable, SR1_0; 23 Sep 2021 Comments: Sample weld.			



Weld Inspection Photos

1. [Weld# - W-01 Drawing#_Rev - SPMT-ENG-P-DRG00001_0Tag# - XT-01](#)



Materials

Heat #	Lot #	Name	P / M #	Type	MTC File
A123456	A2	XLER 350 plate		Plate	
HT1234-A	Q1	36 STD Pipe	1	Pipe	HT1234-A....

D1	Outside diameter for pipe, tube, pipe fittings; Thickness for plate; Major dimension for structural;
D2	Wall thickness for pipe, tube, pipe fittings; Thickness for plate; Minor dimension for structural;
D3	Schedule for pipe, tube; Wall thickness for structural;
Type	Pl – Plate; Pi – Pipe; Tu – Tube; St – Structural; PF-PN – Pipe Fitting – Pipe Nipple; PF-T – Pipe Fitting – Tee; PF-RT – Pipe Fitting – Reducing Tee; PF-E – Pipe Fitting – Elbow; PF- CR– Pipe Fitting – Concentric Reducer; PF-ER – Pipe Fitting – Eccentric Reducer; PF- FWN– Pipe Fitting – Flange- Weld Neck; PF-FS – Pipe Fitting – Flange- Slip on; PF-FRTJ – Pipe Fitting – Flange- RTJ Ring Joint; PF-FSW – Pipe Fitting –Flange- Socket Weld; PF-FB – Pipe Fitting –Flange-Blind; PF-WV – Pipe Fitting –Welded Valves; PF- OWOL– Pipe Fitting –O-Let- WOL; PF- OEOL– Pipe Fitting –O-Let-EOL; PF- OTOL– Pipe Fitting –O-Let- TOL; PF- OSOL– Pipe Fitting –O- Let- SOL;



Consumables

Batch #	F #	Classification	Manufacturer	Diameter	Length	MTC File
COM-CONS-01	6	ER70S-6	Lincoln Electric	2.4	0	COM-CONS-0...

**Machines**

Machine Id	Name	Serial #	Company
M-001	Pipematic 201	123-45	Smart Project Management Tools
WPS # - Rev	Date	Report Number	MQR File Name
WPS-SAMPLE-01-0	23 Sep 2021	MR 1	
Certificate #	Certification Date	Expiry Date	File
M1-01	23 Sep 2021	23 Sep 2021	

Test Reports

Report Number	Rev	Title	Date	File
SR1	0	Sample Test Report	23 Sep 2021	NDE R 01_0.pdf

Pressure Test Pack

PTP Number/ Rev		Reference		Created on		Status
PTP-1 / 0		ENG-PIP-SPE-321		23 Sep 2021		Completed
Tags	Drawings	Welds	Welds Tested	Welds Failed	Requested by	Comments
1	1	4	4	0	Owner's Engineer	For demo
Test Type		Test Pressure		Duration		Medium
Hydrostatic		600 kPag		2 Hours		Water
A/B Ground		Size Range		Specification		
Above ground		900 - 900 (in)		HYD-TEST-SPEC-100 Rev.3		
Test Result		Test Reports		Start Date & Time		End Date & Time
Passed		SR1_0;		23 Sep 2021 9:17 AM		23 Sep 2021 9:17 AM
Test Pressure at start		Ambient temp. at start		Test Pressure at end		Ambient temp. at end
600 kPag		28 °C		595 kPag		27 °C
Pressure Recorder/Gauge Serial No.		Witnessed by		Comments		
PRG1234		Owner's Engineer		For demo		



PTP Number/ Rev		Reference		Created on		Status
PTP-2 / 0		-		12 Nov 2021		Completed
Tags	Drawings	Welds	Welds Tested	Welds Failed	Requested by	Comments
1	1	2	2	2	-	-
Test Type		Test Pressure		Duration		Medium
Hydrostatic		600 kPag		2 Hours		Water
A/B Ground		Size Range		Specification		
Above ground		0 - 0 (in)		-		
Test Result		Test Reports		Start Date & Time		End Date & Time
Failed		SR1_0;		12 Nov 2021 12:42 AM		12 Nov 2021 3:42 AM
Test Pressure at start		Ambient temp. at start		Test Pressure at end		Ambient temp. at end
100 kPag		-		102 kPag		-
Pressure Recorder/Gauge Serial No.		Witnessed by		Comments		
-		4		-		

PWHT Pack

PWHT Number / Rev		Reference		HT Type	Created on	Requested by	Status
PWHTP-1 / 0		HT-01		Stress Relieving	10 Sep 2021	John, Shop Supervisor	Completed
Tags	Drawings	Welds	Completed	Initial Temp. Max	Final Temp. Max	Heating Rate	Soaking Temp.
1	1	2	2	40	50	200 °C	600 °C
Soaking Time		Heating Source		HT Method	Cooling Rate	Cooling Method	Use Insulating Blanket
120 (Mins)		Induction HE		Locally applied external heating	150 °C	Still air	No
Contractor		Specification		Instructions			
HT Inc.		ENG-PWHT-SPE-102		For demo			
Result		Completed on		Reports	Comments		
Acceptable		23 Sep 2021		SR1_0;	For demo		



Dimensions Report

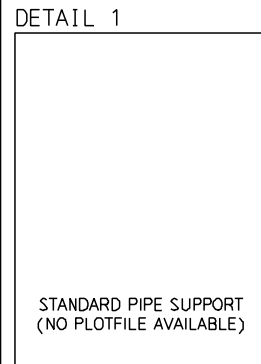
Tag #	Tag Title	Drawing # - Rev	Label - Dimension
XT-01	Example Tag 01	SPMT-ENG-P-DRG00001 - 0	-

**Project Documents**





Document Number	Title	Rev/Ver	Date	Type	Document File Name
DOC-01	Inspection and Test Plan	0	23 Sep 2021	Inspection & Test Plan	DOC-01_0.pdf



WELD MAP DRAWINGS



WELD	SHOP	WELD	WELDER	VISUAL	NDT	HARD	S.R	FAB.Q
NO	/FLD	PROC	ID	ACCEPT	NO	NO		ACCEP
1	F							

ISOMETRIC SYMBOLS		LINE NUMBER	SAMPLE SAMPLE SAMPLE
	BUTT WELD	SERVICE	SAMPLE SAMPLE SAMPLE
		PIPING SPEC	SAMPLE SAMPLE SAMPLE
	SOCKET WELD	MAX DESIGN PRESSURE (BARG)	SAMPLE SAMPLE SAMPLE
		MAX DESIGN TEMP. (°C)	SAMPLE SAMPLE SAMPLE
	FIELD WELD	P&ID DWG	SAMPLE SAMPLE SAMPLE
		INSULATION SPEC	SAMPLE SAMPLE SAMPLE
	FIELD FIT WELD (+ 150 mm)	INSULATION THICKNESS (mm)	

[illegible]

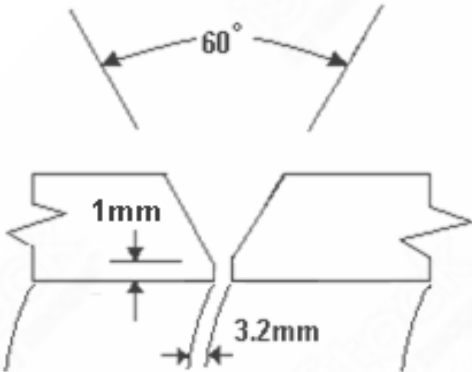



WPS FILES

SPMT			SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE			WELDING PROCEDURE SPECIFICATION				WPS No: 4510			
DESCRIPTION: SINGLE V BUTT WELD										REV: 2			
SUPPORTING PQR: 4010													
WELDING CODE: AS/NZS 3992*:1998													
WELD CATEGORY / CLASS: Class 1													
SURFACE FINISH: As Welded													
JOINT TYPE: Single V Butt													
MATERIAL TYPE: ASTM: A 312 TP304													
MATERIAL GRADE: Stainless Steel Grade 304													
MATERIAL GROUP N°/ P N°: Group K													
WELDING PROCESS: GTAW													
PIPE POSITIONS QUALIFIED: All (except Vertical down)													
PLATE POSITIONS QUALIFIED: All (except Vertical down)													
THICKNESS QUALIFIED: 1.5mm – 10.98mm													
DIAMETERS QUALIFIED: All													
INTERRUN CLEANING METHOD: Wire Brush / Grind													
BACKGOUGING METHOD: N/A													
JOINT PREPARATION						PASS SEQUENCE				JOINT DETAILS			
										ROOT OPENING: 1.5mm – 4mm			
										ROOT FACE: 0mm – 3mm			
										GROOVE ANGLE: 60° - 90°			
										BACKING MATERIAL: N/A			
										THERMAL TREATMENT			
										PREHEAT: 10°C Min			
										CHECK METHOD: Digitemp			
										MAX INTERPASS TEMP: 128°C			
										P.W.H.T: N/A			
										NOTES			
										1. * Indicates Changes made			
WELD PASS DETAILS				ELECTRODE CLASSIFICATION		WELDING PARAMETERS			TRAVEL SPEED	INTER PASS	HEAT INPUT	STRINGER or WEAVE	
RUN	SIDE	POS.	DIR.	SIZE mm	CLASSIFICATION	AMPS	VOLTS	POL.	mm/min	TEMP°C	KJ/mm		
1	1	5G	Up	2.0mm	R316L	71 - 94	5.5 – 8.5	DC-	29 - 51	10 – 128	0.46 – 1.65	Weave	
2	1	5G	Up	2.0mm	R316L	72 – 95	6.5 – 9.5	DC-	35 - 65	10 – 128	0.43 – 1.55	Weave	
3	1	5G	Up	2.0mm	R316L	72 - 95	6.5 – 9.5	DC-	32 - 60	10 - 128	0.47 – 1.69	Weave	
CONSUMABLE DETAILS						ELECTRODE FILLER METALS DETAIL							
TUNGSTEN TYPE: 2% Thoriated		DIAMETER: 2.4mm		STICK OUT: 4mm – 12mm		AUSTRALIAN CLASSIFICATION: AS/NZS 1167.2*: R316L							
SHIELD GAS TYPE: Argon 99.95%		FLOW RATE: 11.7 L/Min - 20 L/Min		NOZZLE SIZE: 8mm - 14mm		AWS/ASME-SFA CLASSIFICATION: SFA-5.9: ER316							
PURGE GAS TYPE: Argon 99.95%		FLOW RATE: 9 L/Min - 15 L/Min		CONSUMABLE TREATMENT: As Per Manufactures Recommendations		ASME FILLER GROUP F No. / A No: F6/ A8							
						AS/NZS 3992* FILLER GROUP: F6							
Documented by:		SAMPLE SAMPLE SAMPLE SAMPLE				Sign:		SAMPLE SAMPLE SAMPLE SAMPLE		Date:		SAMPLE SAMPLE SAMPLE SAMPLE	
Reviewed by:		W10 No: 1505653				Sign:				Date:			

<div> <div>SAMPLE</div> <div>SPMT</div> <div>SAMPLE</div> <div>SAMPLE</div> <div>SAMPLE</div> <div>SAMPLE</div> <div>SAMPLE</div> <div>SAMPLE</div> <div>SAMPLE</div> <div>SAMPLE</div> </div>	PROCEDURE QUALIFICATION RECORD		PQR No: 4010
	DESCRIPTION: SINGLE V BUTT WELD		

WELDING CODE:	AS/NZS 3992: 1998*; ASME IX: 2010	WELDING PROCESS:	GTAW
WELD CATEGORY / CLASS:	AS/NZS 3992 Class 1*	JOINT POSITION:	5G
SURFACE FINISH:	As welded	MATERIAL THICKNESS:	5.49mm
JOINT TYPE:	Single "V" Butt	PIPE DIAMETER:	80NB
MATERIAL TYPE:	ASTM: A 312 TP304	INTERRUN CLEANING METHOD:	Grind Iron Free / S/S Wire Brush
MATERIAL GRADE:	Stainless Steel Grade 304	BACKGOUGING METHOD:	N/A
MATERIAL GROUP N°/ P N°:	AS/NZS 3992*: K / ASME IX: P8	OTHER :	

JOINT PREPARATION	PASS SEQUENCE	JOINT DETAILS
		ROOT OPENING: 3.2mm
		ROOT FACE: 1mm
		GROOVE ANGLE: 60°
		BACKING MATERIAL: N/A
THERMAL TREATMENT		
PREHEAT: 10°C		CHECK METHOD: Digitemp
MAX INTERPASS TEMP: 78°C		P.W.H.T: N/A
NOTES *		
1. This PQR has been re-drafted from PQR P8-T/03		
2. * Indicates change made		

WELD PASS DETAILS				ELECTRODE CLASSIFICATION		WELDING PARAMETERS			TRAVEL SPEED	INTER PASS	HEAT INPUT	STRINGER or WEAVE
RUN	SIDE	POS.	DIR.	SIZE	CLASSIFICATION	AMPS	VOLTS	POL.	mm/min	TEMP°C	KJ/mm	
1	1	5G	UP									

Refer to the attached PQR Running Sheet.

CONSUMABLE DETAILS				ELECTRODE FILLER METALS DETAIL			
FLUX:	N/A	TUNGSTEN TYPE:	2% Thoriated	STICK OUT:	6mm	AUSTRALIAN CLASSIFICATION:	AS/NZS 1167.2*: R316L
SHIELD GAS TYPE:	Argon 99.95%	FLOW RATE:	13L/Min	NOZZLE SIZE:	10mm	AWS/ASME-SFA CLASSIFICATION:	SFA-5.9: ER316
PURGE GAS TYPE:	Argon 99.95%	FLOW RATE:	10L/Min	CONSUMABLE TREATMENT:	As Per Manufactures Recommendations	ASME FILLER GROUP F No. / A No:	F6/ A8
						AS/NZS 3992* GROUP / FN°:	F6

TESTING REQUIRED				TEST PLATE IDENTIFICATION			
VISUAL:	100%	TRANS TENSILE:	Yes (3)	HARDNESS:	N/A	WELDER NAME:	Greg Mastin
RT:	Yes (1)	ALL-WELD TENSILE:	N/A	FERRITE:	N/A	WELDER ID:	LGM1
UT:	N/A	FACE BEND:	Yes (3)	IMPACTS:	N/A	COUPON ID:	P8-T-03
MPI:	N/A	ROOT BEND:	Yes (4)	MACRO:	Yes (2)	DATE WELDED:	13/02/2001
PT:	N/A	SIDE BEND:	N/A	OTHER:			

NDT & MECHANICAL TEST REPORT No's :				See attached report: 29497, 29495, MTU5767/RT001/00					
Documented by:	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Reviewed by:	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE

SAMPLE SPMT SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE	SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE		PROCEDURE QUALIFICATION RECORD	PQR No: 4010 Rev: 2
	DESCRIPTION: SINGLE V BUTT WELD			

WELDING CODE:	AS/NZS 3992: 1998*; ASME IX: 2010	WELDING PROCESS:	GTAW
WELD CATEGORY / CLASS:	AS/NZS 3992 Class 1*	JOINT POSITION:	5G
SURFACE FINISH:	As welded	MATERIAL THICKNESS:	5.49mm
JOINT TYPE:	Single "V" Butt	PIPE DIAMETER:	80NB
MATERIAL TYPE:	ASTM: A 312 TP304	INTERRUN CLEANING METHOD:	Grind Iron Free / S/S Wire Brush
MATERIAL GRADE:	Stainless Steel Grade 304	BACKGOUGING METHOD:	N/A
MATERIAL GROUP N°/ P N°:	AS/NZS 3992*: K / ASME IX: P8	OTHER :	

JOINT PREPARATION	PASS SEQUENCE	JOINT DETAILS
		ROOT OPENING: 3.2mm ROOT FACE: 1mm GROOVE ANGLE: 60° BACKING MATERIAL: N/A THERMAL TREATMENT PREHEAT: 10°C CHECK METHOD: Digitemp MAX INTERPASS TEMP: 78°C P.W.H.T: N/A NOTES * 1. This PQR has been re-drafted from PQR P8-T/03 2. * Indicates change made

WELD PASS DETAILS				ELECTRODE CLASSIFICATION		WELDING PARAMETERS			TRAVEL SPEED	INTER PASS	HEAT INPUT	STRINGER or WEAWE
RUN	SIDE	POS.	DIR.	SIZE	CLASSIFICATION	AMPS	VOLTS	POL.	mm/min	TEMP°C	KJ/mm	
1	1	5G	UP									

Refer to the attached PQR Running Sheet.

CONSUMABLE DETAILS				ELECTRODE FILLER METALS DETAIL			
FLUX:	N/A	TUNGSTEN TYPE:	2% Thoriated	STICK OUT:	6mm	AUSTRALIAN CLASSIFICATION:	AS/NZS 1167.2*: R316L
SHIELD GAS TYPE:	Argon 99.95%	FLOW RATE:	13L/Min	NOZZLE SIZE:	10mm	AWS/ASME-SFA CLASSIFICATION:	SFA-5.9: ER316
PURGE GAS TYPE:	Argon 99.95%	FLOW RATE:	10L/Min	CONSUMABLE TREATMENT:	As Per Manufactures Recommendations	ASME FILLER GROUP F No. / A No:	F6/ A8
						AS/NZS 3992* GROUP / FN°:	F6

TESTING REQUIRED				TEST PLATE IDENTIFICATION			
VISUAL:	100%	TRANS TENSILE:	Yes (3)	HARDNESS:	N/A	WELDER NAME:	Greg Mastin
RT:	Yes (1)	ALL-WELD TENSILE:	N/A	FERRITE:	N/A	WELDER ID:	LGM1
UT:	N/A	FACE BEND:	Yes (3)	IMPACTS:	N/A	COUPON ID:	P8-T-03
MPI:	N/A	ROOT BEND:	Yes (4)	MACRO:	Yes (2)	DATE WELDED:	13/02/2001
PT:	N/A	SIDE BEND:	N/A	OTHER:			

NDT & MECHANICAL TEST REPORT No's :	See attached report: 29497, 29495, MTU5767/RT001/00
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Documented by:	SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
Reviewed by:	SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE



PERSONNEL QUALIFICATIONS



WELDER PERFORMANCE QUALIFICATION (WPQ)

SPMT

Designation	ASME IX:2019 GTAW/GMAW/FCAW P-No.1 to P-No.1 G F#6/6/6 T 11.13 DN 80 t 1/1/9.13 2G/2G & 5G/6G			
Name	Gus Dorloff	WPQ Record #	781-0-GD1-Rev-D	
Welder ID	GD1	Qualified to	ASME IX:2019	
Stamp Number		WPS Number	781-Rev-0	
Employer		Job Knowledge	Not tested	
Test Date	Jun-19-2020	Test/Production	Test	

Base Metals (QW-403)

Base Metals	Product Form	Specification	P #	Group #	UNS #	NPS/DN	Diameter	Schedule	Thickness
Steel & steel alloy	Pipe	A/SA-53 Type S, Gr. B	1	1	K03005	80 mm	88.9 mm	Sch 160	11.13 mm
Steel & steel alloy	Pipe	A/SA-53 Type S, Gr. B	1	1	K03005	80 mm	88.9 mm	XXS	15.24 mm

Joint Details (QW-350)

Welding Variables	Actual Values	Range Qualified
Joint Type	Pipe - Pipe - Groove	Groove and Fillet welds
Branch Connection	No	
Base metals P-No. to P-No.	P-No.1 to P-No.1	P-No. 1 thru 15F, 34, 41 thru 49
Diameter, mm	88.9	73 - unlimited (groove); No limit (fillet)
Thickness, mm	11.13	

Process 1

Welding Variables (QW-350)	Actual Values	Range Qualified
Process	GTAW	GTAW
Type	Manual	Manual
Backing (Metal, Weld Metal)	Without	With or Without
Spec. No. (SFA)	SFA-5.18	
AWS No. (Class)	ER70S-2	
Filler Metal F-Number	6	6
Filler Metal A-Number	1	
Consumable Insert	NA	NA
Filler Metal Product Form	Flux coated	Flux coated (solid or metal cored)
Weld Deposit Thickness, mm	1	2
Number of Layers Deposited	1	
Gas Backing	With	With
Current, Polarity	DCEN	DCEN

Position	2G	Positions Qualified. To be read together with the range qualified values for diameter in the joint details					
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
F, H	F, H	F, H		F, H	F, H	F, H	F, H



Process 2		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	GMAW	GMAW
Type	Semi-automatic	Semi-automatic
Backing (Metal, Weld Metal)	With	With
Spec. No. (SFA)	SFA-5.18	
AWS No. (Class)	ER70S-7	
Filler Metal F-Number	6	6
Filler Metal A-Number		
Consumable Insert	With	With
Filler Metal Product Form	Powder	Powder
Weld Deposit Thickness, mm	1	2
Number of Layers Deposited	1	
Gas Backing	Without	With or Without
Transfer Mode	Globular	Globular, Spray, Pulse

Position				Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
		2G & 5G Up					
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
All	All	All		All	All	All	All

Process 3		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	FCAW	FCAW
Type	Automatic	Automatic
Backing (Metal, Weld Metal)	With	With
Spec. No. (SFA)	SFA-5.20	
AWS No. (Class)	E70T-10	
Filler Metal F-Number	6	6
Filler Metal A-Number		
Consumable Insert	Without	Without
Filler Metal Product Form	Flux cored	Flux cored
Weld Deposit Thickness, mm	9.13	18.26
Number of Layers Deposited	3	
Gas Backing	Without	With or Without
Transfer Mode	Pulse	Globular, Spray, Pulse

Position				Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
		6G Down					
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
All	All	All		All	All	All	All

Test Methods	Test Result	Test Report
Visual Examination per QW-302.4	Performed and Acceptable	
3 face bend tests - ref QW-161.2 & QW-302.3	Performed and Acceptable	
3 root bend tests - ref QW-161.3 & QW-302.3	Performed and Acceptable	



	Jun-19-2020	Specification	
Requalification?	No	Test Location	
Place of Testing		Weather	
Date Issued	Jul-25-2020	Ambient Temperature	21 °C

Assessor Notes	Comments
-	-

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE 2019 edition.

	Digital signature Examined by - Kannan Adityan Examined on - Jul-25-2020 SPMT	 AWS PRESIDENT		Digital signature Approved by - Kannan Adityan Approved on - Jul-25-2020 SPMT	 AWS PRESIDENT
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WELDER PERFORMANCE QUALIFICATION (WPQ)

SPMT

Designation	ASME IX:2019 GTAW/GMAW/FCAW P-No.1 to P-No.1 G F#6/6/6 T 11.13 DN 80 t 1/1/9.13 2G/2G & 5G/6G			
Name	Gus Dorloff	WPQ Record #	781-0-GD1-Rev-D	
Welder ID	GD1	Qualified to	ASME IX:2019	
Stamp Number		WPS Number	781-Rev-0	
Employer		Job Knowledge	Not tested	
Test Date	Jun-19-2020	Test/Production	Test	

Base Metals (QW-403)									
Base Metals	Product Form	Specification	P #	Group #	UNS #	NPS/DN	Diameter	Schedule	Thickness
Steel & steel alloy	Pipe	A/SA-53 Type S, Gr. B	1	1	K03005	80 mm	88.9 mm	Sch 160	11.13 mm
Steel & steel alloy	Pipe	A/SA-53 Type S, Gr. B	1	1	K03005	80 mm	88.9 mm	XXS	15.24 mm

Joint Details (QW-350)		
Welding Variables	Actual Values	Range Qualified
Joint Type	Pipe - Pipe - Groove	Groove and Fillet welds
Branch Connection	No	
Base metals P-No. to P-No.	P-No.1 to P-No.1	P-No. 1 thru 15F, 34, 41 thru 49
Diameter, mm	88.9	73 - unlimited (groove); No limit (fillet)
Thickness, mm	11.13	

Process 1		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	GTAW	GTAW
Type	Manual	Manual
Backing (Metal, Weld Metal)	Without	With or Without
Spec. No. (SFA)	SFA-5.18	
AWS No. (Class)	ER70S-2	
Filler Metal F-Number	6	6
Filler Metal A-Number	1	
Consumable Insert	NA	NA
Filler Metal Product Form	Flux coated	Flux coated (solid or metal cored)
Weld Deposit Thickness, mm	1	2
Number of Layers Deposited	1	
Gas Backing	With	With
Current, Polarity	DCEN	DCEN

Position	2G			Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
F, H	F, H	F, H		F, H	F, H	F, H	F, H



Process 2		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	GMAW	GMAW
Type	Semi-automatic	Semi-automatic
Backing (Metal, Weld Metal)	With	With
Spec. No. (SFA)	SFA-5.18	
AWS No. (Class)	ER70S-7	
Filler Metal F-Number	6	6
Filler Metal A-Number		
Consumable Insert	With	With
Filler Metal Product Form	Powder	Powder
Weld Deposit Thickness, mm	1	2
Number of Layers Deposited	1	
Gas Backing	Without	With or Without
Transfer Mode	Globular	Globular, Spray, Pulse

Position				Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
		2G & 5G Up					
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
All	All	All		All	All	All	All

Process 3		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	FCAW	FCAW
Type	Automatic	Automatic
Backing (Metal, Weld Metal)	With	With
Spec. No. (SFA)	SFA-5.20	
AWS No. (Class)	E70T-10	
Filler Metal F-Number	6	6
Filler Metal A-Number		
Consumable Insert	Without	Without
Filler Metal Product Form	Flux cored	Flux cored
Weld Deposit Thickness, mm	9.13	18.26
Number of Layers Deposited	3	
Gas Backing	Without	With or Without
Transfer Mode	Pulse	Globular, Spray, Pulse

Position				Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
		6G Down					
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
All	All	All		All	All	All	All

Test Methods	Test Result	Test Report
Visual Examination per QW-302.4	Performed and Acceptable	
3 face bend tests - ref QW-161.2 & QW-302.3	Performed and Acceptable	
3 root bend tests - ref QW-161.3 & QW-302.3	Performed and Acceptable	



	Jun-19-2020	Specification	
Requalification?	No	Test Location	
Place of Testing		Weather	
Date Issued	Jul-25-2020	Ambient Temperature	21 °C

Assessor Notes	Comments
-	-

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WELDER PERFORMANCE QUALIFICATION (WPQ)

SPMT

Designation	ASME IX:2019 GTAW/GMAW/FCAW P-No.1 to P-No.1 G F#6/6/6 T 11.13 DN 80 t 1/1/9.13 2G/2G & 5G/6G			
Name	Gus Dorloff	WPQ Record #	781-0-GD1-Rev-D	
Welder ID	GD1	Qualified to	ASME IX:2019	
Stamp Number		WPS Number	781-Rev-0	
Employer		Job Knowledge	Not tested	
Test Date	Jun-19-2020	Test/Production	Test	

Base Metals (QW-403)

Base Metals	Product Form	Specification	P #	Group #	UNS #	NPS/DN	Diameter	Schedule	Thickness
Steel & steel alloy	Pipe	A/SA-53 Type S, Gr. B	1	1	K03005	80 mm	88.9 mm	Sch 160	11.13 mm
Steel & steel alloy	Pipe	A/SA-53 Type S, Gr. B	1	1	K03005	80 mm	88.9 mm	XXS	15.24 mm

Joint Details (QW-350)

Welding Variables	Actual Values	Range Qualified
Joint Type	Pipe - Pipe - Groove	Groove and Fillet welds
Branch Connection	No	
Base metals P-No. to P-No.	P-No.1 to P-No.1	P-No. 1 thru 15F, 34, 41 thru 49
Diameter, mm	88.9	73 - unlimited (groove); No limit (fillet)
Thickness, mm	11.13	

Process 1

Welding Variables (QW-350)	Actual Values	Range Qualified
Process	GTAW	GTAW
Type	Manual	Manual
Backing (Metal, Weld Metal)	Without	With or Without
Spec. No. (SFA)	SFA-5.18	
AWS No. (Class)	ER70S-2	
Filler Metal F-Number	6	6
Filler Metal A-Number	1	
Consumable Insert	NA	NA
Filler Metal Product Form	Flux coated	Flux coated (solid or metal cored)
Weld Deposit Thickness, mm	1	2
Number of Layers Deposited	1	
Gas Backing	With	With
Current, Polarity	DCEN	DCEN

Position	2G			Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
F, H	F, H	F, H		F, H	F, H	F, H	F, H



Process 2		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	GMAW	GMAW
Type	Semi-automatic	Semi-automatic
Backing (Metal, Weld Metal)	With	With
Spec. No. (SFA)	SFA-5.18	
AWS No. (Class)	ER70S-7	
Filler Metal F-Number	6	6
Filler Metal A-Number		
Consumable Insert	With	With
Filler Metal Product Form	Powder	Powder
Weld Deposit Thickness, mm	1	2
Number of Layers Deposited	1	
Gas Backing	Without	With or Without
Transfer Mode	Globular	Globular, Spray, Pulse

Position		2G & 5G Up		Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
All	All	All		All	All	All	All

Process 3		
Welding Variables (QW-350)	Actual Values	Range Qualified
Process	FCAW	FCAW
Type	Automatic	Automatic
Backing (Metal, Weld Metal)	With	With
Spec. No. (SFA)	SFA-5.20	
AWS No. (Class)	E70T-10	
Filler Metal F-Number	6	6
Filler Metal A-Number		
Consumable Insert	Without	Without
Filler Metal Product Form	Flux cored	Flux cored
Weld Deposit Thickness, mm	9.13	18.26
Number of Layers Deposited	3	
Gas Backing	Without	With or Without
Transfer Mode	Pulse	Globular, Spray, Pulse

Position		6G Down		Positions Qualified. To be read together with the range qualified values for diameter in the joint details			
Groove - Plate	Groove - Pipe > 610 mm O.D.	Groove - Pipe 73 - 610 mm O.D.	Groove - Pipe < 73 mm O.D.	Fillet - Plate	Fillet - Pipe > 610 mm O.D.	Fillet - Pipe 73 - 610 mm O.D.	Fillet - Pipe < 73 mm O.D.
All	All	All		All	All	All	All

Test Methods	Test Result	Test Report
Visual Examination per QW-302.4	Performed and Acceptable	
3 face bend tests - ref QW-161.2 & QW-302.3	Performed and Acceptable	
3 root bend tests - ref QW-161.3 & QW-302.3	Performed and Acceptable	



	Jun-19-2020	Specification	
Requalification?	No	Test Location	
Place of Testing		Weather	
Date Issued	Jul-25-2020	Ambient Temperature	21 °C

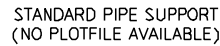
Assessor Notes	Comments
-	-

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE 2019 edition.

	Digital signature Examined by - Kannan Adityan Examined on - Jul-25-2020 SPMT	 AWS PRESIDENT		Digital signature Approved by - Kannan Adityan Approved on - Jul-25-2020 SPMT	 AWS PRESIDENT
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DRAWINGS FILES



FABRICATION MATERIALS			
ITEM	COMPONENT DESCRIPTION	N.S. (MM)	QTY
	<u>PIPE</u>		
1	PIPE, PN10, BUTT-WRAPPED JOINTS, BS7159 , GRP BS7159	900	1176MM
	<u>FITTINGS</u>		
2	90 DEG MITRED BEND, R=D, PN10, BS7159 , GRP BS7159	900	2
	<u>FLANGES</u>		
3	FLANGE WITH INTEGRAL BACKING RING, 150LB, PN10, FF, BS7159 , GRP BS7159	900	3
	<u>SUPPORTS</u>		
4	GRP PIPE STANCHION VERTICAL SUPPORT GRPVTRS	900	1

ERECTION MATERIALS			
ITEM	COMPONENT DESCRIPTION	N.S. (MM)	QTY
	<u>FITTINGS</u>		
5	SP2158 TWIN ARCH FLEXIBLE JOINT RESTRAINED,ASME B16.47-A	900	2
	<u>BOLTS</u>		
6	315 STUD BOLT, ASME B18.2.1, UNC THREAD TO ASME B1.1 , GALV ASTM A193 GR.B7 WITH ZINC PAINTED ENDS	1.1/2 INS	128
7	HEAVY HEX NUT, ASME B18.2.2, UNC THREAD TO ASME B1.1 , GALV ASTM A194 GR.2H	1.1/2 INS	256
8	WASHER, ASME B18.22.1 , GALV STEEL	1.1/2 INS	256

[5] [6] [7]

ISOMETRIC SYMBOLS		LINE NUMBER	SAMPLE SAMPLE SAMPLE
	BUTT WELD	SERVICE	SAMPLE SAMPLE SAMPLE
		PIPING SPEC	SAMPLE SAMPLE SAMPLE
	SOCKET WELD	MAX DESIGN PRESSURE (BARG)	SAMPLE SAMPLE SAMPLE
		MAX DESIGN TEMP. (°C)	SAMPLE SAMPLE SAMPLE
	FIELD WELD	P&ID DWG	SAMPLE SAMPLE SAMPLE
		INSULATION SPEC	SAMPLE SAMPLE SAMPLE
	FIELD FIT WELD (+ 150 mm)	INSULATION THICKNESS (mm)	

[illegible]

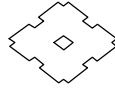


WELD INSPECTION PHOTOS





MTCs (Pipe)



CERTIFICATE NO.: WYYK8128

PAGE: 1/2 DATE: 2002-07-22

CUSTOMER :BP TRINIDAD & TOBAGO LLC
ORDER NO. :TAT-026-APR02 ITEM NO. 7
SHIPPER :SUMITOMO CORPORATION 057 KEB 8672 3 2P14S049001
COMMODITY :SEAMLESS STEEL CASING PLAIN END
STANDARD :API 5CT GROUP3 GR.P110
SPECIFICATION :TSP-1112R9

MILL WORK NO. :WYYK8128 O.D.:10-3/4inch W.T.:60.70lb/ft LENGTH:R-3 QUANTITY:154pcs.
TOTAL LENGTH:6143.00feet MASS:165677kg

HEAT NO. PRODUCTS PCS.
J2K6018 154

HEAT TREATMENT:QUENCHED & TEMPERED

CHEMICAL COMPOSITION(%)

		C	Si	Mn	P	S	Cr	Mo	Al	
	*1				*2	*2			*2	
SPEC. MIN.	R	-	-	-	-	-	-	-	-	
MAX.	R	-	-	-	30	30	-	-	-	
HEAT NO.										
J2K6018	L	24	36	136	13	3	52	13	48	
	P	24	36	137	12	4	52	13	54	
	P	24	35	137	12	4	51	13	47	

*1 R:LADLE &
PRODUCT ANALYSIS
L:LADLE ANALYSIS
P:PRODUCT ANALYSIS

*2: X1000
OTHER:X100

TENSILE TEST

		*1	*2	YS	TS	EL	
				*3	*3	%	
SPEC. MIN.	H/T LOT	L	B	P 110.0	P 125.0	15.0	
MAX.	NO.	L	B	P 140.0	P -	-	
HEAT NO.							
J2K6018	001	L	BT	P 124.0	P 137.9	27.6	
	002	L	BE	P 124.4	P 138.9	26.6	

TYPE OF SPECIMEN
STRIP 1-1/2" (38mm)
WIDTH
GAUGE LENGTH
2.0"
KIND OF YS
0.6% EXTENSION
UNDER LOAD
*1 DIRECTION
L:LONGITUDINAL
*2 SAMPLING POSITION
B:BASE METAL
BT:BASE METAL (TOP)
BE:BASE METAL (BOTTOM)
*3 UNIT
P:ksi

SMI CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AND IS FULLY IN COMPLIANCE.

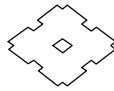


William H.
Stevenson-BP-NIB
All documentation
and certification
reviewed and
accepted on 08-08-02
Page 1 of 2

Y. Komoto

IN-SPEC

MANAGER, QUALITY ASSURANCE SECTION



IMPACT TEST

		14.0°F 2V 10x10								*1 DIRECTION L: LONGITUDINAL
		*1	*2	*3	*4	(1)	(2)	(3)	AVG.	
SPEC. MIN.		L	B	E	F	25	37	37	37	*2 SAMPLING POSITION B: BASE METAL BT: BASE METAL (TOP) BE: BASE METAL (BOTTOM)
MAX.		L	B	E	F	-	-	-	-	
MIN.	H/T LOT	L	B	S	%	-	-	-	-	
MAX.	NO.	L	B	S	%	-	-	-	-	
HEAT NO.										*3 CONTENTS OF TEST E: ABSORBED ENERGY S: SHEAR AREA *4 UNIT F: ft·lbf %
J2K6018	001	L	BT	E	F	75	80	94	83	
	001	L	BT	S	%	94	96	100	97	
	002	L	BE	E	F	86	90	93	90	
	002	L	BE	S	%	100	100	100	100	

THE FOLLOWING OPERATIONS HAVE BEEN CARRIED OUT ON THIS MATERIAL AND WERE FOUND TO COMPLY WITH THE CALL OFF AND CONTRACT REQUIREMENTS.

THE SPECIFIC REQUIREMENTS ARE DETAILED IN THE SPECIFICATION REFERRED TO ON PAGE 1 OF THIS MILL CERTIFICATE.

- 1)
 - A) VISUAL AND DIMENSIONAL INSPECTION
 - B) VOLUMETRIC ULTRASONIC EXAMINATION FOR WALL THICKNESS, LONGITUDINAL AND TRANSVERSE INDICATIONS.
 - C) MAGNETIC PARTICLE EXAMINATION OF PIPE END NOT COVERED BY ULTRASONIC EXAMINATION
 - D) FULL LENGTH MAGNETIC PARTICLE EXAMINATION OF PIPE BODY IF REQUIRED BY SPECIFICATION
 - E) ELECTROMAGNETIC EXAMINATION
 - F) RESIDUAL MAGNETISM
 - G) DRIFT TEST (IF DRIFT SIZE IS SPECIAL, THE SIZE IS REFERRED TO ABOVE)
 - H) HYDROSTATIC TEST
 - I) HARDNESS IF REQUIRED BY SPECIFICATION
- 2) THIS CERTIFICATION IS IN ACCORDANCE EN10204-3.1.B
- 3) IF A VOCAB NUMBER IS APPLICABLE FOR THIS ITEM IT CAN BE FOUND EITHER ON PAGE 1 OF THIS MILL CERTIFICATE OR THE ASSOCIATED TALLY LIST

SMI CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AND IS FULLY IN COMPLIANCE.

IN-SPEC


MANAGER, QUALITY ASSURANCE SECTION



CONSUMABLE FILES

The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, Ohio 44117-1199

CERTIFICATE OF CONFORMANCE
(APPLIES ONLY TO U.S. PRODUCTS)



Q1 Lot Number: 12463717

Product: Fleetweld 5P
Classification: E6010
Specification: AWS A5.1:2004, ASME SFA-5.1
Date: January 24, 2011

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied according to the Quality System Program of the Lincoln Electric Company, Cleveland, Ohio, U.S.A., which meets the requirements of ISO9001, NCA3800, AWS A5.01, and other specification and Military requirements, as applicable. The Quality System Program has been approved by ASME, ABS, and VdTUV.

Operating Settings		RESULTS			
E6010 Requirements		5/32 inch DC+	3/16 inch DC+	1/4 inch DC+	
Electrode Size					
Polarity					
Plate Thickness, mm (in)		19 (3/4)	19 (3/4)	25 (1)	
Current, A		140	170	250	
Pass/Layers		14/7	12/6	20/10	
Preheat Temperature, °C (°F)	(225 min.)	105 (225)	105 (225)	105 (225)	
Interpass Temperature, °C (°F)	(225 - 350)	150 (300)	150 (300)	150 (300)	
Postweld Heat Treatment	As-welded	As-welded	As-welded	As-welded	
Mechanical properties of weld deposits					
Tensile Strength, MPa (ksi)	(60 min.)	530 (76)	490 (71)	470 (68)	
Yield Strength, 0.2% Offset, MPa (ksi)	(48 min.)	430 (62)	380 (56)	400 (58)	
Elongation	22 min.	28	29	30	
Average Impact Energy	(20 min.)	55 (40)	64 (47)	67 (49)	
Joules @ -29 °C (ft-lbs @ -20 °F)		35,64,65 (26,47,48)	54,68,69 (40,50,51)	53,73,75 (39,54,55)	
Average Hardness, HRB	Not Required	85	81	82	
Chemical composition of weld deposits (weight %)					
C	0.20 max.	0.12	0.11	0.11	
Mn	1.20 max.	0.48	0.45	0.45	
Si	1.00 max.	0.27	0.22	0.14	
S	Not Required	0.007	0.006	0.010	
P	Not Required	0.011	0.011	0.008	
Cr	0.20 max.	0.04	0.03	0.02	
Ni	0.30 max.	0.02	0.02	0.01	
Mo	0.30 max.	0.01	0.01	0.00	
V	0.08 max.	0.01	0.00	0.00	

- This certificate complies with the requirements of EN 10204, Type 2.2.
- The electrode sizes required to be tested for this classification are 5/32 inch, 3/16 inch and 1/4 inch. The 3/32 inch, 1/8 inch and 7/32 inch sizes will also meet these requirements.
- Test assembly constructed of ASTM A36 steel.
- Fillet Weld Test (positions as required): Met requirements.
- Radiographic Inspection: Grade 2 - Met requirements.
- The strength and elongation properties were obtained from tensile specimens artificially aged at 105°C (220°F) for 48 hours.
- Results below the detection limits of the instrument or lower than the precision required by the specification are reported as zero. Strength values in SI units are reported to the nearest 10 MPa converted from actual data. Preheat and interpass temperature values in SI units are reported to the nearest 5 degrees.

J.R. Fogle, Certification Supervisor
Date: January 24, 2011

Dave Fink, Manager, Compliance Engineering, Consumable R&D
Date: January 24, 2011

NDT-REPORTS FILES



REPORT NO: 44111477-02

DATE: 08.11.2011

PAGE NO: 1 of 4

CLIENT:

SAMPLE SAMPLE
SAMPLE SAMPLE
SAMPLE SAMPLE
SAMPLE SAMPLE
SAMPLE SAMPLE

CONTACT:

SUBJECT: The Magnetic Particle Examination of nominated welds on Fuel Gas Pipe Work. The examination was carried out at Kenya Water Treatment Plant.

IDENTIFICATION: Request No's: LO-MT003 & LO-MT004

ORDER NO: SL83/ SAMPLE

EXAMINATION DATE: 02 & 03.11.2011

TECHNICIAN: S. Stevens

TECHNICAL DATA

Test Specification: AS 1171-1998

Test Procedure: MT.001

Current Type: AC

Technique: Magnetic flow - sustained magnetisation

Surface Condition/Coatings
& Preparation: As welded

Material Specification: Carbon Steel – Not Further Specified

Acceptance Standard: AS 4037-1999, Table 8.4, Class 1

Demagnetised: No

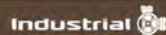
Test Restrictions: Nil



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RESULTS OF EXAMINATION

IDENTIFICATION

INTERPRETATION

Magnetic Particle Examination of nominated welds on Fuel Gas Pipe Work

SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE
SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE

REQUEST No. LO-MT003

Activity No: MT 001

Size: 40mm NS

Weld No: 3525

The weld complies with the acceptance standard

Activity No: MT 002

Size: 40mm NS

Weld No: 3526

The weld complies with the acceptance standard

Activity No: MT 003

Size: 40mm NS

Weld No: 3493

The weld complies with the acceptance standard

Activity No: MT 004

Size: 40mm NS

Weld No: 3494

The weld complies with the acceptance standard

Activity No: MT 005

Size: 40mm NS

Weld No: 3509

The weld complies with the acceptance standard

Activity No: MT 006

Size: 40mm NS

Weld No: 3510

The weld complies with the acceptance standard

**IDENTIFICATION****INTERPRETATION****REQUEST No. LO-MT004****Activity No: MT 007**

Welder: LJR1
Weld No: 3479

The weld complies with the acceptance standard

Activity No: MT 008

Welder: LSM1
Weld No: 3485

The weld complies with the acceptance standard

Activity No: MT 009

Welder: LJR1
Size: 200mm NS
Weld No: 3490

The weld complies with the acceptance standard

Activity No: MT 010

Welder: LJR1
Size: 200mm NS
Weld No: 3491

The weld complies with the acceptance standard

Activity No: MT 011

Welder: LJR1
Size: 200mm NS
Weld No: 3495

The weld complies with the acceptance standard

Activity No: MT 012

Welder: LJR1
Size: 200mm NS
Weld No: 3496

The weld complies with the acceptance standard

Activity No: MT 013

Welder: LSM1
Weld No: 3501

The weld complies with the acceptance standard

Activity No: MT 014

Welder: LSM1
Size: 200mm NS
Weld No: 3506

The weld complies with the acceptance standard

Activity No: MT 015

Welder: LSM1
Size: 200mm NS
Weld No: 3507

The weld complies with the acceptance standard

Activity No: MT 016

Welder: LSM1
Size: 200mm NS
Weld No: 3511

The weld complies with the acceptance standard

**IDENTIFICATION****Activity No: MT 017**

Welder: LSM1
Size: 200mm NS
Weld No: 3512

INTERPRETATION

The weld complies with the acceptance standard

Activity No: MT 018

Welder: LSM1
Weld No: 3517

The weld complies with the acceptance standard

Activity No: MT 019

Welder: LSM1
Size: 200mm NS
Weld No: 3522

The weld complies with the acceptance standard

Activity No: MT 020

Welder: LSM1
Size: 200mm NS
Weld No: 3523

The weld complies with the acceptance standard

Activity No: MT 021

Welder: LSM1
Size: 200mm NS
Weld No: 3527

The weld complies with the acceptance standard

Activity No: MT 022

Welder: LSM1
Size: 200mm NS
Weld No: 3528

The weld complies with the acceptance standard

G Paessler
NDT Technical Manager
Brisbane Laboratory

All work is subject to our standard terms and conditions, available on our website
<http://www.alsglobal.com/industrialDownloads.aspx>



PROJECT DOCUMENTS

Supplier Name Inspection & Test Plan (ITP)												
Customer Name:						Document #:						
Customer PO #:						Issue Date:						
Part/Drawing #:						Issued By:						
MLI #:						Approved By (GE):						
Description:						Rev #:						
Project Name:						Rev Date:						
D=Document Review, M=Monitor, W=Witness, H=Hold Point												
Inspection Level - Customer Representative												
Inspection Level - GE Representative												
Inspection Level - Supplier Representative												
Step #	Process/Operation Description	Characteristic	Applicable Procedure	Acceptance Criteria	Verifying Documents/Reference	Freq	Notes	Inspection Performed By:	Inspection Signoff	Comments	Supplier Name	Customer Name
1	Fabricate Skid Base	General Fabrication/Design	Supplier Procedure	AWS D1.1 GE specs	Drawings BOM/			QA Inspector			D	D
		Material Traceability	Supplier Procedure	AWS D1.1 GE Specs	Material Certs	100%	Verify material complies to PO/BOM upon receipt	Project Manager			D	D
		Fit up & Alignment	Supplier Procedure	AWS D1.1 GE Specs	Drawings	100%		Operator			D	M
		Dimensional Checks	Supplier Procedure	AWS D1.1 GE Specs	Drawings	100%		Operator			W	M
		Welding Materials Inspection	Supplier Procedure WPS/	AWS D1.1 ASME Sec II	Drawings/W PS	100%	Verify markings or certificates	Operator			W	
		Welding Inspection	Supplier Procedure	AWS D1.1 GE Specs	Drawings/W PS	100%	All Welds per AWS D1.1	QA Inspector			W	M
		Magnetic Particle Testing	NDE-5.3	AWS D1.1 ASTM E-709 Supplier Procedure/ GE Specs	Inspection Reports	100%	All Lifting Lugs	QA Inspector			D	D
		Skid Base Blasting	Supplier Procedure	Supplier Procedure/ GE Specs	Inspection Reports	100%		QA Inspector			W	D
		Paint/ Preservation	Supplier Procedure	GE Spec	Inspection Reports	100%	Total DFT 7.0-9.0 mils	QA Inspector			W	D

Supplier Name											
Inspection & Test Plan (ITP)											
Customer Name:		Document #:									
Customer PO #:		Issue Date:									
Part/Drawing #:		Issued By:									
MLI #:		Approved By (GE):									
Description:		Rev #:									
Project Name:		Rev Date:									
D=Document Review, M=Monitor, W=Witness, H=Hold Point											
Inspection Level - Customer Representative											
Inspection Level - GE Representative											
Inspection Level - Supplier Representative											
2	Fabricate Piping	General Fabrication & Design	Supplier Procedure	ASME B31.3/GE Specs	Pipe Spool Drawings	100%	Verify material complies to PO/BOM upon receipt	Project Manager			
		Material Traceability	Supplier Procedure	ASME B31.3/GE Specs	BOM/ Weld Maps	100%				D	D
		Fit Up/ Alignment	Supplier Procedure	ASME B31.3/GE Specs	Spool Drawings/ Weld Maps	100%		Operator			M
		Dimensional Checks	Supplier Procedure	ASME B31.3/GE Specs	Spool Drawings/ Weld Maps	100%		Operator			D
		Weld Inspection	Supplier Procedure	ASME B31.3/GE Specs	WPS/Weld Maps/Spool Drawings	100%	All butt welds must have GTAW roots/100% visual	Operator			D
		Radiographic Testing	NDE-3.5	ASME B31.3/GE Specs	Test Reports	5%	Must include all welders, weld type, & size	QA Inspector			D
		Hydrostatic Testing	Supplier Procedure	ASME B31.3/GE Specs	ANSI B16.5/ Drawings	100%	1 Hr test with chart/ test water includes rust inhibitor VCI-377	QA Inspector			D
		Blasting Paint/ Preservation	Supplier Procedure	Supplier Procedure/GE Spec	Inspection Reports	100%		QA Inspector			D
			Supplier Procedure	GE Spec	Inspection Reports	100%	Total DFT 7.0-9.0 mils	QA Inspector			D
		P&ID Compliance	Supplier Procedure	GE P&ID	Inspection Reports	100%	Verify components tagged per GE P&ID/BOM	QA Inspector			W
3	Skid Assembly-Mechanical										

Supplier Name											
Inspection & Test Plan (ITP)											
Customer Name:		Document #:									
Customer PO #:		Issue Date:									
Part/Drawing #:		Issued By:									
MLI #:		Approved By (GE):									
Description:		Rev #:									
Project Name:		Rev Date:									
D=Document Review, M=Monitor, W=Witness, H=Hold Point											
Inspection Level - Customer Representative											
Inspection Level - GE Representative											
Inspection Level - Supplier Representative											
		Flange Connections	Supplier Procedure	B31.3/ GE Specs	Drawings	100%	Flange alignment shall be within 1/16" per foot	QA Inspector			
		Dimensional	Supplier Procedure	ASME B31.3/ GE Specs	Drawings	100%		QA Inspector			
4	Skid Assembly-Instrument & Electrical	Junction Boxes	Supplier Procedure/ GE Spec	NFPA 70 (NEC)/ GE Spec	Drawings/ BOM	100%	Verify Type NEMA 4 or 4X	QA Inspector			
		Components	Supplier Procedure/ GE Spec	NFPA 70 (NEC)/ GE Spec	Drawings/ BOM	100%	All components per GE BOM & Drawings, including gauge scales	QA Inspector			
		Wire	Supplier Procedure/ GE Spec	NFPA 70 (NEC)/ GE Spec	Drawings/ BOM	100%	Verify proper wire labels and confirm no splices	QA Inspector			
5	Functional Testing	Component Testing	Supplier Procedure/ GE Spec	GE Spec	Inspection Reports	100%	Test all instruments for continuity, short circuit, and "Megger"	QA Inspector			
		System Leak Test	ASME VIII/ GE Specs	ASME VIII/ GE Specs/ ASME B31.3	Inspection Reports	100%	25 psi sensitive leak/soap bubble test for 15 min	QA Inspector			
6	Final Inspection	System Cleanliness	GE Spec	GE Spec	Witness	100%		QA Inspector			
		Nameplate Visual	ASME VIII	GE Spec	Drawings	100%		QA Inspector			
		Inspection of Paint	Supplier Procedure	GE Spec	Inspection Reports	100%		QA Inspector			



Supplier Name									
Inspection & Test Plan (ITP)									
Customer Name:					Document #:				
Customer PO #:					Issue Date:				
Part/Drawing #:					Issued By:				
MLI #:					Approved By (GE):				
Description:					Rev #:				
Project Name:					Rev Date:				
D=Document Review, M=Monitor, W=Witness, H=Hold Point									
Inspection Level - Customer Representative									
Inspection Level - GE Representative									
Inspection Level - Supplier Representative									
	Visual Inspection of Preservation & Prep for shipment	Supplier Procedure GE Spec	GE Spec	Witness	100%	QA Inspector	Application of rust inhibitor with shipping covers and gaskets installed	W	D