

SPECIFICATION FOR BROWNFIELD PIPELINE CLASS – Y03F3B

DOCUMENT NUMBER

0000RP-C-G0-G000-PE-SPC-0011

DATE

26th April 2016

Rev	Description	Originator	Review	Project Approval	Date
B01	Issued for Use	C. Caceres	S. Keegan/ S. Wright	D Paisley	26 th April 2016

REVISION DESCRIPTION SHEET

Rev	Para	Reason for Revision
A01		Not Issued
B01		Issued for Use
Hold No	Para	Description of Hold



REFERENCE SPECIFICATIONS			DESIGN CONDITIONS																		
DESIGN CODES	ASME B31.4, ASME B16.5, ASME B16.34, ASME B16.48, ASME 16.49, ASME B16.9, ASME B16.47-A, API 5L, API 602, API 600, API 594, MSS SP97		Design Pressure (Barg)	MAOP (Barg)	CORROSION ALLOWANCE (mm)	HYDROSTATIC TEST PRESSURE (Barg)	FLANGE RATING / FACING	MAXIMUM DESIGN TEMPERATURE (°C)	MINIMUM DESIGN TEMPERATURE (°C)	SERVICE											
SOUR SERVICE	N/A		25	21	1.5	32	300 / RF	100	-2	Source Water (SW)											
COATING	DUAL LAYER FBE UV RESISTANT																				
LINE PIPE	Nominal Size Inch (mm)	2"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	32"	36"	40"	42"	48"			
	Wall Thickness (mm)	11.07	3.05	3.4	3.76	4.19	4.57	6.35	6.35	6.35	9.53	7.92	9.53	9.53	12.7	12.7	12.7				
	Schedule (ASME B33.10)	Sch XXS	Sch 10	Sch 10	Sch 10	Sch 10	Sch 10	Sch 10	Sch 10	Sch 10	Sch 10	Sch 20 / Sch STD	Sch 10	SCH STD	Sch STD	Sch XS	Sch XS	Sch XS			
	Pipe Seam	Seamless										Submerged Arc Welding									
	Line Pipe Material	API 5L GR B PSL1																			
	External Coating	Dual Layer FBE UV Resistant																			
Internal Coating	Liquid Applied Internal Corrosion Resistant Lining																				
VALVES	TYPE	TYPE DESCRIPTION	SIZE RANGE	BODY MATERIAL	TRIM MATERIAL	SEAL MATERIAL	COMPLEMENT														
	GATE	RISING STEM - SOLID WEDGE	2" - 2"	SS - A 240 GR 316L (Note1) A216 - WCB (Note2)	API TRIM 12	CORROSION INHIBITED, DIE FORMED FLEXIBLE GRAPHITE PACKING WITH ANTI - EXTRUSION RING	FULL DIFFERENTIAL PRESSURE BOLTED BONNET STANDARD PORT														
		RISING STEM - FLEXIBLE WEDGE	4" - 48"																		
	GLOBE	OUTSIDE SCREW AND YOKE TAPERED PLUG TYPE DISC	2" - 8"																		
	CHECK	DOUBLE FLANGED DUAL PLATE RETAINERLESS	2" - 48"																		
BALL	FLOTING BALL, REDUCED PORT	2" - 4"	SS - A 240 GR 316L (Note1)	A350 Gr.LF2 BALL + DUPLEX OVERLAY, DUPLEX STEM, METAL SEAT, TUNGSTEN CARBIDE COATED.	FLEXIBLE GRAPHITE, PTFE LIP SEALS	FULL DIFFERENTIAL PRESSURE SPLIT BODY, ANTI STATIC, ANTI BLOWOUT STEM GEAR OPERATED															
	TRUNNION MOUNTED BALL, FULL PORT	6" - 36"	A105N (FORGED) A216 WCB (CASTING) (Note 2)																		
FLANGES	TYPE	SIZE RANGE	MATERIAL	COMPLEMENT																	
	WELDING NECK	2" - 48"	Carbon Steel ASTM A105	300# RAISED FACE AS PER ASME B16.5 EXTERNALLY COATED (Liquid Applied Epoxy)																	
	BLIND																				
	SPECTACLE BLIND																				
	SPADE BLIND																				
SPACER RING	300# RAISED FACE AS PER ASME B16.48 EXTERNALLY COATED (Liquid Applied Epoxy)																				
FITTING	TYPE	TYPE DESCRIPTION	SIZE RANGE	MATERIAL	COMPLEMENT																
	45° LONG RADIUS ELBOW	SEAMLESS	2" - 16"	Carbon Steel ASTM A234 WPB	FINAL DIMENSION SPECIFIED AS PER ASME B16.9 BEVEL END EXTERNALLY COATED (Liquid Applied Epoxy) INTERNALLY COATED (Liquid Applied Internal Corrosion Resistant Lining)																
		SUBMERGED ARC WELDED, 100% RX	18" - 48"																		
	90° LONG RADIUS ELBOW	SEAMLESS	2" - 16"																		
		SUBMERGED ARC WELDED, 100% RX	18" - 48"																		
	TEE	SEAMLESS	2" - 16"																		
		SUBMERGED ARC WELDED, 100% RX	18" - 48"																		
	REDUCING TEE	SEAMLESS	4" - 16"																		
		SUBMERGED ARC WELDED, 100% RX	18" - 48"																		
	CONCENTRIC REDUCER	SEAMLESS	4" - 16"																		
		SUBMERGED ARC WELDED, 100% RX	18" - 48"																		
	ECCENTRIC REDUCER	SEAMLESS	4" - 16"																		
		SUBMERGED ARC WELDED, 100% RX	18" - 48"																		
	45° INDUCTION BEND (3D, 5D, 7D)	SEAMLESS	6" - 16"			API 5L GR B PSL1	FINAL DIMENSION SPECIFIED AS PER ASME B16.49 BEVEL END EXTERNALLY COATED (Dual Layer FBE UV Resistant or Liquid Applied Epoxy) INTERNALLY COATED (Liquid Applied Internal Corrosion Resistant Lining)														
SUBMERGED ARC WELDED, 100% RX		18" - 34"																			
90° INDUCTION BEND (3D, 5D, 7D)	SEAMLESS	6" - 16"																			
	SUBMERGED ARC WELDED, 100% RX	18" - 34"																			
WELDOLET	Header size 2" - 48" Branch Size 2" - 6"	ASTM A105	FINAL DIMENSION SPECIFIED AS PER ASME MSS SP97 BEVEL END																	
SWEEPOLET	Header size 24" - 48" Branch Size 8" - 20"																			
GASKET	TYPE	SIZE RANGE	DESCRIPTION																		
	SPIRAL WOUND	2" - 28"	GASKET, 316L SS-FG, SPIRAL WOUND, 1/8" (3.2 MM) THK, 316L SS INNER RING, 316L SS OUTER RING, CL300, B16.5, B16.20																		
		30" - 48"	GASKET, 316L SS-FG, SPIRAL WOUND, 1/8" (3.2 MM) THK, 316L SS INNER RING, 316L SS OUTER RING, CL300, B16.47A, B16.20																		
STUD BOLTS & NUTS	STUD BOLTS & HEAVY HEXAGONAL NUTS	5 - .875 50 - 1000	STUD BOLT (CONT), CR-MO A193-B7, W/ 2 HVY HEX NUTS, A194-2H, B1.1, HOT-DIP GALV F2329, DIA (IMP) X LEN (MET)																		
		1 - 3.5 50 - 1000	STUD BOLT (CONT), CR-MO A193-B7, W/ 3 HVY HEX NUTS, A194-2H, B1.1, HOT-DIP GALV F2329, DIA (IMP) X LEN (MET)																		
DEFAULT BRANCH TABLE, SMALL BORE - BUTTWELD	BRANCH SIZE (NPS)																				
	HEADER SIZE (NPS)	2	4	6	8	10	12	14	16	18	20	24	30	32	36	40	42	48			
		48	WO	WO	WO	SO	SO	SO	SO	SO	SO	RT	RT	RT	RT	RT	RT	TE			
		42	WO	WO	WO	SO	SO	SO	SO	RT	RT	RT	RT	RT	RT	RT	RT	TE			
		40	WO	WO	WO	SO	SO	SO	SO	RT	RT	RT	RT	RT	RT	RT	TE				
		36	WO	WO	WO	SO	SO	SO	SO	RT	RT	RT	RT	RT	RT	TE					
		32	WO	WO	WO	SO	SO	SO	RT	RT	RT	RT	RT	RT	TE						
		30	WO	WO	WO	SO	RT	RT	RT	RT	RT	RT	RT	TE							
		24	WO	WO	WO	SO	RT	RT	RT	RT	RT	RT	TE								
		20	WO	WO	WO	RT	RT	RT	RT	RT	RT	TE									
		18	WO	WO	WO	RT	RT	RT	RT	RT	TE										
		16	WO	WO	RT	RT	RT	RT	RT	TE											
		14	WO	WO	RT	RT	RT	TE													
		12	WO	WO	RT	RT	TE														
10		WO	RT	RT	TE																
8	WO	RT	TE																		
6	WO	RT	TE																		
4	RT	TE																			
2	TE																				
GENERAL CLASS NOTES																					
<ol style="list-style-type: none"> Valve body material up 4" shall be specified as ASTM A240 GR 316L All wet areas of carbon steel body shall be protected with Duplex stainless steel overlay / Liquid Applied Internal Corrosion Resistant Lining All butt welded component thicknesses shall match pipe thickness. Buttweld connection preferred. Flanged connection only when shown on P&ID. Pipe schedules/wall thicknesses shown are adequate for full temperature/pressure limits of this class. Hydrotesting shall be in accordance with document number 0000BF-C-G0-G000-PL-SPC-0001 Specification for hydrotesting of pipelines, piping systems and pressure vessels. NDE and welding shall be in accordance with document number 0000BF-C-G0-G000-QA-SPC-0002 Rumaila brownfield projects specification for carbon steel pipeline welding and inspection. External coating shall comply with requirements established in the document number 0000RP-C-G0-G000-ML-SPC-0002 External Paint Coating for Shop and Field - Brownfield. Internal coating shall be specified by the Engineering contractor and subject to ROO approval. Full-port valves shall be used if indicated on the P&ID 																					