



THIS DRAWING AND ALL INFORMATION THEREON IS THE PROPERTY OF TORRANCE REFINING AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS EXPRESSLY FURNISHED. THE DRAWING AND ALL INFORMATION CONTAINED HEREON IS NOT TO BE REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF TORRANCE REFINING. NO COPIES THEREOF (PARTIAL OR COMPLETE) SHALL BE RETURNED TO THE OWNER ON DEMAND.


1: THERMOWELL AND SHOE SUPPORT DIMENSIONS ARE FROM "OD OF PIPE TO FACE OF FLANGE", UNLESS SPECIFIED ALL OTHER PIPE DIMENSIONS ARE MEASURED FROM CENTER LINE OF PIPE.

AES	STRESS RELIEVE	NDE	TRIM	HYDROTEST	PAINT TORRANCE EXTERNAL COATING PROCEDURE			STEAM TRACING
YES	PWHT	EP 5-5-1: 18.0	#9	PBF TECH SPEC EXHIBIT "J" TABLE 1	SYSTEM	TABLE	MOBIL BEIGE F-38 VALSPAR/EXXON TAN D297 CARBOLINE CHART	N/A
					1	1B		

LINE No.	DIA (In)	SCH	SPEC	MAT	DESIGN		OPER.		HYDR PRES	INS	COMMODITY
					PRES	TEMP	PRES	TEMP			
05XF-170	1"	XXS	HF 41	CS	350	100	300	100	535	N	TRN#363077-0
05XF-170	2"	160	HF 41	CS	350	100	300	100	535	N	TRN#363077-0
REF. DWG.	XXXXXX.001					REF. PID	05A0134D01				

SHOP MATERIALS			
ID	SIZE	COMPONENT DESCRIPTION	QTY
1	1"	PIPE, SMLS, CARBON STEEL, ASTM A106 GR B, EXCEPT CARBON CONTENT NOT TO EXCEED 0.25WT, CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S9 EXCEPT IT SHALL NOT EXCEED 0.45, XXS, TE, P/D CODE PSA05	1'-0"
2	2"	PIPE, SMLS, CARBON STEEL, ASTM A106 GR B, EXCEPT CARBON CONTENT NOT TO EXCEED 0.25WT, CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S9 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160, BE, P/D CODE PSA05	<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">74'-4"</div> 
3	2"	ELBOW 90 LR, BW, ASME B16.9, CARBON STEEL, ASTM A234 WPB, EXCEPT CARBON CONTENT NOT TO EXCEED 0.25 WT. PERCENT, CE SHALL MEET THE REQ OF SUPPLEMENT S3 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160, P/D CODE PFA07	3
4	2"x3/4"	SWAGE (CONC), BLEXTSE, ASME B16.11, FORGED CARBON STEEL, ASTM A105, CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S4 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160 X XXS, P/D CODE PFA09	2
5	2"x1"	SWAGE (CONC), BLEXTSE, ASME B16.11, FORGED CARBON STEEL, ASTM A105, CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S4 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160 X XXS, P/D CODE PFA09	2
6	2"	TEE, BW, ASME B16.9, CARBON STEEL, ASTM A234 WPB, EXCEPT CARBON CONTENT NOT TO EXCEED 0.25 WT. PERCENT, CE SHALL MEET THE REQ OF SUPPLEMENT S3 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160, P/D CODE PFA07	5
7	2"	FLANGE WN, 300 LB, RF, ASME B16.5, FORGED CARBON STEEL, ASTM A 105 CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S4 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160 BORE, P/D CODE FWA06	<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">5</div> 
8	2"	DUMMY SUPPORT, DS1-2, STLO010S SHT 063, CARBON STEEL, ASTM A106 GR B, EXCEPT CARBON CONTENT NOT TO EXCEED 0.25WT, CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S9 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160, BE, P/D CODE PSA05	2'-6"
9	2"	U-BOLT FOR PU2-2, GRINNELL FIGURE 137 WITH SIX NUTS, 3/8" ROD DIA, C=2 13/16"	1

FIELD MATERIALS			
ID	SIZE	COMPONENT DESCRIPTION	QTY
10	3/4"	PLUG, THD, ASME B16.11, ROUND, FORGED CARBON STEEL, ASTM A105, P/D CODE PPA01	2
11	1"	UNION, 6000 LB, THD, ASME B16.11, FORGED CARBON STEEL, ASTM A105, CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S4 EXCEPT IT SHALL NOT EXCEED 0.45, P/D CODE PFA09	2
12	2"	STUD BOLT 5/8" X 3 1/2" LG, ASTM A193 GR B7 AND ASTM A194 GR 2H NUTS, P/D CODE BSA01	40
13	2"	GASKET, FLEXITALLIC CHANGE HF, 1/8" THICK SPIRAL-WOUND, ALLOY 400 CHANGE WIRE WINDING W/FLEXIBLE GRAPHITE FILLER, CS CENTERING RING, 0.032" THICK ALLOY 400 INNER RING W/0.125" PTFE FACING EACH SIDE, (2"-300#), STD	5
14	3/4"	GATE VALVE, 800 LB, THD, API 602, CARBON STEEL BODY, ASTM A105, OS&Y, BB W/ SWG, TRIM #9, SUPPLEMENTAL REQ FOR VALVES IN HYDROFLUORIC ACID ALKYLATION SERVICE PER GEMS 3-43-3.1 APPLY, P/D CODE VSA25	2
15	1"	VALVE, SLEEVE LINED PLUG, CLASS 300, THD ENDS, API 599, EXTERNALLY FIRE TESTED DESIGN PER API 607, ALLOY 400 BODY & PLUG, ASTM B564 ALLOY UNS N04400 OR ASTM A494 GR. M-35-1 W/ SUPPLEMENTAL WELDABILITY TEST S-22 REQ, PTFE SLEEVE LINED, BB, GRAPHITE BODY SE, DURCO QAP CM10241	2
16	2"	VALVE, SLEEVE LINED PLUG, CLASS 300, FLANGED, RF, API 599, EXTERNALLY FIRE TESTED DESIGN PER API 607, ALLOY 400 BODY & PLUG, ASTM B564 ALLOY UNS N04400 OR ASTM A494 GR. M-35-1 W/ SUPPLEMENTAL WELDABILITY TEST S-22 REQ, PTFE SLEEVE LINED, BB, SHORT PATTERN, DURCO QAP CM10241	1
17	2"	FLANGE WN, 300 LB, RF, ASME B16.5, FORGED CARBON STEEL, ASTM A 105 CARBON EQUIVALENT (CE) SHALL MEET THE REQUIREMENTS OF SUPPLEMENT S4 EXCEPT IT SHALL NOT EXCEED 0.45, SCH 160 BORE, P/D CODE FWA06	2

2	ISSUE FOR CONSTRUCTION ADDED FLANGES	05-02-23	05-04-23
1	ISSUE FOR CONSTRUCTION ADD SEVERE SERVICE STAMP	12-20-22	01-05-23
0	ISSUE FOR CONSTRUCTION	JP	NW
REV	REVISIONS	DATE	APP'D
JOB		BY	APP'D
			MB
AR/AFE#		RWO NO	
		MCR NO	
ISO BUTANE/ALKYLATE FLUSH HEADER			
 <div style="float: right;">TORRANCE CALIFORNIA</div>			
DESIGNER	B.MACIOCE	DRAWING NO	SHT NO
SCALE	NONE	05L0170X	C06
			REV NO
			2