



6		5			4		3		2		1				
D	MISCELLANEOUS	608	CAUTION PLATE	155x155x2THK	SS 304	1									
		607	HANDLE FOR PARTITION COVER	ø16x300LG.	SA387 GR.11 CL-2	3									
		606	NAME PLATE	150x127x2THK	SS 304	1									
		605	PUSH ROD	ø31x264LG.	SA193 GR. B16	52+52									
		604	PUSH ROD	ø44x106LG.	SA453 GR.660B	36+36									
		603	PUSH ROD	ø44x52LG.	SA193 GR. B16	32+32									
		602	IMPACT BAR	ø19.05x863LG.	SA739 GR. B11	25									
		601	TIE ROD	ø12.7x3965LG.	SA739 GR. B11	18									
		C	FASTENERS	511	PULLING EYE BOLT	M-20	SA 105	4							
				510	PLUG	M-20	SA387 GR.11 CL-2	4							
				509	STUD	M-10x25LG.	SA193 GR.B8T CL-2	4+4							
				508	HEX. HD. BOLT FOR LIFTING DEVICE	M-24x60LG. FULL THD.	SA193 GR. B7	4+4							
				507	HEX. SOCKET SET SCREW	M-10x28LG.	SA193 GR.B8T CL-2	3+3							
				506	HEX. HD. BOLT (SET SCREW)	1 3/8"-8UN FULL THD.	SA193 GR. B16	52+11							
				505	HEX. HD. BOLT (SET SCREW)	1 7/8"-8UN FULL THD.	SA453 GR 660B	36+8							
504	HEX. HD. BOLT (SET SCREW)			1 7/8"-8UN FULL THD.	SA193 GR. B16	32+7									
503	NUTS FOR TIE RODS			M-12 STD.	SA194 GR.4	32									
502	STUD WITH NUTS & WASHER			M-12x80LG. FULL THD.	SA193 GR. B8T CL-2/	75+15									
501	HEX. HD. CAP SCREW WITH LOCKNUT	M-10x60LG. FULL THD.	SA194 GR. B8T	24+5											
C	GASKETS	406													
		405	PACKING SEAL	12.7Sq.x970LG.	FIBER GLASS UIP-329	1+4									
		404	GASKET	3THK AS PER DRAWING	NON ASBESTOS WITH ARAMIDE FIBRE	3+12	AS PER DETAIL								
		403	RING GASKET	OD995xID943x1.6THK	2 1/4 Cr,1 Mo ANNEALED	1+4	HARDNESS-110 BHN MAX.								
		402	RING GASKET	OD1057xID1031x3THK	2 1/4 Cr,1 Mo ANNEALED	1+4	HARDNESS-110 BHN MAX.								
401	GASKET	OD987xID949x6.35THK	SS316L SPWD	1+4											
B	TUBES	307	DUMMY TUBES	OD19.05x2.77THKx3941LG.	SA213 GR. T11	49									
		306	SPOOL FOR NOZZ. T1 & T2	8"NBxSCH140x300LG.	SA106 GR.B	2									
		305	SPOOL FOR NOZZ. 'S2'	16"NBxSCH.140x300LG.	SA672 GR. B60 CL-32	1	SA266 GR2								
		304	SPOOL FOR NOZZ. 'S1'	16"NBxSCH160.300LG.	SA691 GR.1.25Cr CL-42	1	SA182 F11 CL-3								
		303	DUMMY TUBES	OD19.05x2.77THKx3941LG.	SA213 GR. T11	4									
		302	SPACER	OD19.05x1.65THKxLG.	SA213 GR. T11	AS REQD.	AS PER TABLE								
		301	'U' TUBES	OD19.05x2.77THK(MIN.)xLG.AS PER TABLE	SA213 GR. T11	359	AS PER TABLE								
		213													
		212	ADDED STEEL(PROPRIETARY)	-	SA336 F22 CL-3	1									
		211	INNER COMPRESSION RING	OD835xID731x54THK	SA336 F22 CL-3	1									
B	FORGING	210	OUTER COMPRESSION RING	OD1073xID998x49.6THK	SA336 F22 CL-3	1									
		209	SPLIT RING	OD1045xID972x45THK	SA387 GR22 CL-2	1									
		208	INTERNAL FLANGE	OD1007xID739x187THK	SA336 F11 CL-3	1									
		207	FORGE NECK FOR T1 & T2	8"NB BUTTWELD	SA336 F22 CL-3	2									
		206	FORGE NECK FOR 'S2'	16"NB BUTTWELD	SA336 F22 CL-3	1									
		205	FORGE NECK FOR S1	16"NB BUTTWELD	SA336 F22 CL-3	1									
		204	CHANNEL COVER	ø1002.5x230THK	SA336 F22 CL-3	1									
		203	THREADED LOCK RING	OD1112xID932x379LG	SA336 F22 CL-3	1	AS PER DETAIL								
		202	CHANNEL BARREL	AS PER DETAIL	SA336 F22 CL-3	1									
		201	TUBE SHEET	ø995x148THK	SA336 F11 CL-3	1									
A	PLATES	144	PARTIAL SUPPORT PLATE 'S2'	OD 938.2x12THK	SA387 GR.11 CL-2	1									
		143	PARTIAL SUPPORT PLATE 'S1'	OD 938.2x12THK	SA387 GR.11 CL-2	1									
		142	BEND PL. FOR T1 & T2	742°x30Wx14THK (16THK)	SA516 GR70	2									
		141	BEND PL. FOR S2	1343°x30Wx18THK	SA516 GR70	1									
		140	BEND PLATE FOR S1	1343°x30Wx18THK	SA387 GR.11 CL-2	1									
		139	PLATE FOR PIPE SUPP. CLIP	10THK AS PER DWG.	SA387 GR.22 CL-2	2									
		138	PLATE FOR PIPE SUPP.CLIP	200x201x10THK	SA387 GR.22 CL-2	2									
		137	SEALING STRIP	2348x105Wx8THK	SA387 GR.11 CL-2	2									
		136	-												
				I.NO	DESCRIPTION	SIZE	MATERIAL	QTY	USED MATERIAL						

PLATES

I.NO

DESCRIPTION SIZE MATERIAL QTY USED MATERIAL

BILL OF MATERIALS

6	02/17/03	AS BUILT DIMENSIONS ARE SHOWN IN	DMF	WB	HRB
		BKT (-) & OTHER REVISED AS MKD. THUS			
5	10/10/02	DWG IS REVISED AS MKD. THUS.	DMF	WB	HRB
REV.	DATE	DESCRIPTION	DRWN	CHKD	APPD
PROJECT NAME : CPCL REFINERY- III PROJECT					
MANUFACTURER : 					
ENGINEERING :  STRUTHERS INDUSTRIES, INC. GULFPORT, MISSISSIPPI					
CONSULTANT : ENGINEERS INDIA LIMITED					
CLIENT : CHENNAI PETROLEUM CORPORATION LIMITED					
TITLE : BILL OF MATERIAL FOR REACTOR EFFLUENT/ RECYCLE GAS				EQPT. NO. 207-E7	
JOB NO.	SII	3-02-04-41206E	P/O No.	1027/PO/2138/4814	
	TEMA	T/E/02520			
SCALE	NTS	DWG. No. or Doc No.	VP-1027-E7-02520	SHT. NO.	Rev.
				3 OF 19	3/4/5/6

DRAWING CERTIFIED BY
Harry R. Bishop 02/17/03
 HARRY R. BISHOP
 CHIEF DESIGN ENGINEER

"AS BUILT DWG"

BILL OF MATERIALS