

EQUIPMENT MANUAL
ALKYLATION PLANT

PLANT 06

EL PASO 2230 PROGRAM

EL PASO REFINERY

1965

K-P

CHEV B8 6238

INDEX OF MATERIAL ORDERS FOR EL PASO REFINERY
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ORDER NO.	MATERIAL	SUPPLIER
	C - COLUMNS	
PC-6-C-7	Sieve Tray Column C-505	Wyatt Industries
	D - DRUMS & TANKS	
PC-6-D-1	Reactor Section - Contactors D-627 and D-628	Stratford Eng. Corp.
-9	Vessels D-629, D-630, D-623 D-623 and D-633	AMF Beaird
-15	Coalescers D-626, D-631 D-634 and D-625	Warner Lewis
-29	Relief Drum D-648	Trinity Steel Co.
-38	Vessels D-635, D-634, D-643 D-624, D-639, D-645, D-646 & D-644	A. Gunthard
-47	Seal Oil System	Durametallic Corp.
DX -73	Steam Entrainment Separator D-620	Peerless Mfg. Co.
	E - EXCHANGERS COOLERS CONDENSERS	
PC-6-E-6	Exchangers E-627, 628, 632	Industrial Fabricating
-31	Exchangers E-633, 639, 638	Western Supply
-83	Heat. Exch. Tube Bundle Pulling Attachments	Saracco Tank & Mfg. Corp.
-108	Ht. Exch. Tube Bundle Pulling Att.	Consoco
	G - PUMPS & DRIVERS	CHEV B8 6239
PC-6-G-2	Pumps G-625&A, G-626&A, G-627 G-629&A and G-630&A	Pacific Pumps, Inc.
-22	Pumps G-631&A, G-641 and G-645&A	The Duriron Co.

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ORDER NO.	MATERIAL	SUPPLIER
	G- PUMPS & DRIVERS (Cont'd)	
PC-6-G-25	Prop. Pump & Caustic Washer G-628&A	R.I.F.
-34	Pumps G-633&A, G-634&A G-635&A and G-640.	Byron Jackson Pumps
-50	G-646	Graham Man.
-51	G-642	Union Pump
-56	New Stage for Debut. Reflux Pumps G-607&A	Bingham Pump Co.
-94	Corrosion Inhibitor Inject. G-643	Manzel
	J - INSTRUMENTS	
PC-6-J-8	Panel Instruments	Foxboro Co.
-10	Control Panel	Method Control
-11	Suppressed Range Pressure Transmitters	Foxboro Co.
-12	Blind Pneumatic Flow Transmitters	Fischer & Porter
-13	Indicating Pressure Transmitters	Leighton Stone
-14	Level Switches	Johnson Eng.
-16	Fluid Flow Indicator & Recorders	Barton Instrument
-17	Temp. Switch TAH-06-511	United Electric Cont.
-18	Flow & Level D/P Transmitters	Foxboro Co.
-19	Blind Pneumatic Temp. Trans.	Taylor Instrument
-20	Indicating Pressure Controllers	Bristol Co.
-21	Level Controllers & Transmitters	Mason-Neilan
-24	Field Receiver Gages	Foxboro
-26	Level Gages	Straham Valves
-27	Indicating Temp. Controllers	Bristol
-28	Field Pneumatic Press. Contr.	Fisher Governor

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ORDER NO.	MATERIAL	SUPPLIER
	J - INSTRUMENTS (Cont'd)	
PC-6-J-32	Alloy 20 Control Valves	Kiellex & Mueller
-35	Caustic Tank LI-06-415	
-36	Field Pressure Gages	Ashcroft
-40	Level Controller LC-06-316	Moore Products
-42	Dial Thermometers & Thermovells	Weston
-45	Control Valves	Hammel-Dahl
-46	Temperature Controller TC-06-322	Montgomery Bros.
-49	Rotameters	Fischer & Porter
-48	Air Relay FSL-06-31	George Dahl
-59	Blind Pneumatic Trans.	Fischer & Porter
-60	Blind Temp. Trans.	Taylor Instruments
-63	Dial Thermometers	Weston
-64	Level Gages	Strahman Valves
-65	Charts & Scales	Foxboro
-66	Pressure Controller	Fischer Governor
-67	Field Flow Controller	Cancel. Supp. 1
-68	Level Controller	Fisher Governor
-69	Field Pressure Gages	Leighton Store
-70	Thermocouple Switch Cabinet	Honeywell
-72	Control Valves	A-Hammel Dahl B-La Habra Cons. Whse.
-73	Replacement Trim-Valve FRC-06-136	Kiellex & Mueller
-75	Receiver Gages	Foxboro
-76	Pressure Switch	Meletron
-78	ConoFlow Model H10 Pressure Regulator	ConoFlow Corp.
-79	Compressor Suction Vanes Press. Gage	Ashcroft
-80	Air Dryer	Jayco

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ORDER NO.	MATERIAL	SUPPLIER
	J - INSTRUMENTS (Cont'd)	
PC-6-J-81	Sta-Dri Filters Model 65-SU	Beach Stra-Dri
-82	Indicating Press. Transm.	Ashcroft
-84	Orifice Plates	J. T. Shaler
-85	Repl. Annunciator Components	Scan Instru.
-86	Installation Material	Fisher Governor
-87	Venturi Tube FE-06-460	Mosher Steel Co.
-88	Thermowells	Decker Instrument Supply Co.
-89	Instr. Installation Mat'l	Pacific Pipe Co.
-92	TI-06-8182, TI-06-8183	Weston
-93	Instr. Winterizing House	Moran Furnace
-95	D/P Transmitters	Foxboro Co.
-96	Thermowell TAH-06-510	Decker Inst.
-97	Orifice Plates	J. T. Shaler
-98	Manometer PI-06-684	Meriam
-99	Refrigeration System	Black Sivvals
-101	Rupture Disc. Installations	Republic Supply Co.
-102	Freon Leak Detector	General Electric
-105	Instal. Mat'l for APS	N. J. Hatter
-106	Nameplates & Tags	Acme Engraving Co.
-107	Rotameter	Fischer & Porter Co.
-113	Fisher & Porter Purge Meter	Fischer & Porte
-114	Thermowells TW-06-823 & 06-824	Decker Instrument Co.
-116	Orifice Plates	J. T. Shaler
-117	Alloy 20 Orifice Plate FI-06-410	J. T. Shaler
-119	Liquid Level Gages	Strahman Valves

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DWG. NO. PE-06-21489

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	J - INSTRUMENTS (Cont'd)	
PC-6-J-121	Purge Unit Install.	A - Crane Supply
		B - Black-Sivvals & Bryson
		C - Leighton Stone
		D - Adam Hill Co.
		E - Schutte & Koerting
-126	Thermowell TIC-06-307	Richmond Reclamation
-127	Scales for Level Gages	Strahman Valve
-128	Press. Gage P1-06-605	Ashcroft
-133	Thermowell TIC-06-305	
-134	Flanged Thermowells	
-135	Dial Thermometers	
	K - MECHANICAL EQUIPMENT	
PC-6-K-4	Freon Compressor Driver	Worthington Corp.
-5	Freon Refrigeration System	York Corporation
PC-6-SP-90	Spare Compressor Rotor	York
-91	Spare Turbine Rotor	Worthington
	L - PIPING	CHEV B8 6243
PC-6-L-33	Relief Valves	Leighton Stone

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ORDER NO.	MATERIAL	SUPPLIER
PC-6-LX-5	Consol. Stock - Valves	
-6	C/S Valves & Ftgs.	A - El Paso Pipe & Supply Co. B - Jules & Bennett Co.
-7	Pipe - C/S	X - Richmond C - Mine & Smelter Supply B - El Paso Pipe Supply Co. D - Metal Goods Corp.
-8	C/S Flanged Valves	
-9	C/S Screwed Valves	A - El Paso - B - Franklin Supp. C - Division Supply D - Vernon Tool E - York Div. Borg - Warner
-10	C/S Flanges	B - Jules Bennett C - Western Forge - D - Vinson
-11	C/S Welding Fittings	C - Jules Bennet D - Republic
-12	C/S Strainers, Couplings Flanges	B - G. S. Thomas-G. Border Mach. D - O'Brien Iron E - Kreml - F - M. N. Atkon
-13	C/S Bolts & Gaskets	A - Refy Sthse. - B - El Paso C - Houston Gas Ref.
-14	C/S	
-15	C/S Screwed Fittings	A - Refy Sthse. B - Norville Wilder - C - Jules Bennett
-16	C/S Somatic Coated Pipe	
-17	C/S Pipe Ftgs. & Valves	B - El Paso
-18	Flanged Valves	A - El Paso - B - Alley Steel C - Jules Bennet
-19	C/S Pipe Ftgs. & Valves	
-20	C/S Cooling System	Franklin Supply
-28		A - Metal Goods B - El Paso Pipe
-29	C/S Instru.	
-34	L-7832 - 3/4	Vernon Tool
-35	C/S	Centex Inc.
-36	C/S Misc. Pipe	A - El Paso B - O'Brien Iron
-37	C/S Valves	A - Storehouse - B - Mid-Cont. C - J. G. Bennett
-38	C/S L-7649-6	El Paso Pipe Supply

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ORDER NO.	MATERIAL	SUPPLIER
PC-6-LX-39	C/S Pipe	A. Vinson Supply Co. B. Borden Machinery Co. C. Monsen - Dunnegan - Regan D. Trident Engineering
-40	C/S Pipe	A. Vinson Supply Co. B. Norville-Wilder
-41	Alloy 20 Pipe	A. Mid. Continent Supply B. Associated Steel C. Vernon Tool Co. D. El Paso Pipe & Supply
-42	C/S Pipe	A. Mid Continent Supply B. Associated Steel C. Valve Company
-44	Pipe	A. Monsen, Dunnega, Ryan B. El Paso Pipe & Supply C. Esco
-45	Hose Stations	Darb/Shire Steel Co.
-46	C/S Instr. Mat'l	
-47	C/S Piping & Valves	
-48	C/S Pipe	A. Storehouse B. El Paso Pipe
-49	Refrigeration Valves	A. York B. El Paso Pipe
-51	Pipe & Flanges	
-52	Refrigeration Lube System	
-57	C/S Piping	
-59	Relief Piping	
-60	Relief Line Materials	A. Fabric Valve - B. El Paso C. Oil Well
-61	Pipe	A. Storehouse Stl. B. Monson-Dunnegan, Ryan C. Spraying Systems D. Norville-Wilder E. Wheeling Pacific F. El Paso Pipe & Supply G. Ram Forge & Steel
-64	Pipe	A. Vinson Supply B. Associated Steel
-65	Flanges	A. Republic Supply Co. B. Hawley Forge & Mfg. Co. C. O'Brien Iron Works D. El Paso Pipe & Supply Co.
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ORDER NO.	MATERIAL	SUPPLIER
PC-6-LX-66	Screwed Fittings	A. Wheeling Pacific Co. B. El Paso Pipe & Supply Co. C. Mid-Continent Supply Co. D. Mills Iron Works E. George S. Thomson Co.
-67	Welded Fittings	A. El Paso Pipe & Supply Co. B. Norvell Wilder Co.
-68	C/S Misc. Instr. Fittings & Tubing	A. Wheeling Pacific Co. B. El Paso Pipe & Supply C. Fairchild Hiller Corp. D. Geo S. Thomson Co. E. Mills Iron Works F. James J. Kone Co. G. Foxboro Co. H. Darb/Shire Steel Co. I. Samuel Moore & Co.
-69	Bolts & Gaskets	A. El Paso Saw & Belting B. Lamons Metal Gasket
-70	Screwed Valves	A. Geo Thomson B. Vinson Supply C. El Paso Pipe & Supply
-71	Flanged Valves	X. El Paso Pipe & Supply A. Norvell Wilder B. Jules G. Beckett
-72	Cooling Water Pipe	Continental Enseco
-74	Pipe & Tube	
-75	Screwed Valves	A. Pacific Valves B. Oil Well Supply
-76	Bolts & Gaskets	B. Geo. S. Thompson Co. C. El Paso Saw & Belting
-77	Misc.	A. Ref. Sthse B. Darbyshire Steel Co.
-78	Flanges	A. Hawley Forge & Mfg. B. Oil Well Supply
-79	C/S Flanged Valves	Mid Continent Supply
-80	C/S Welded Fittings	
-81	Screwed Fittings	El Paso Pipe & Supply
-83	C/S 1" Hose Couplings	C. L. North Co.
-87	Consolidated Steel	A. El Paso Pipe & Supply B. Associated Steel
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ORDER NO.	MATERIAL	SUPPLIER
	M-X - STRUCTURES	
PC-6-M-X-2	Fabricated Steel	Darby Shire Steel
-X		
-41	Stanchion Edge Beams	Equitable Equip.
-63	Vapor Barrier	H. Welsh Co.
-X		
	N - INSULATION	
PC-6-N-62	Insulation	Willard A. Salle
	P - POWER & LIGHTING	
PC-6-P-37	NEMA type 3 MCC	Cuttler Hammer
-57	P-579	Westinghouse
-58	P-541 and P-532	Graybar
-103	Alarm Horn	Westinghouse Electric Supply Co.
-104	Circuit Breakers	Westinghouse Electric Supply Co.
-109	Thermostat Control	Mercoid Corp.
-110	Dry Transformer	Westinghouse Electric Supply Co.
-111	Elect. Heat Tracing	Nelson Electric Mfg. Co.
-122	Telephone Booths	Graybar Electric Co.
-129	Replacement Switch - Refrig. System	
-130	Replacement Switch - Refrig. System	
-131	Replacement Solenoid Valves Refrig. System	
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	P - POWER & LIGHTING	
PC-11-P-1	Primary Switchgear	S&C Electric Co.
-2	Unswitched Capacitor Bank	Westinghouse Electric Corp.
-3	Fused Disc. Sw. Parts	S & C Electric Co.
-23	Transformer & Swgr.	General Electric
PC-6-PX-22	C/S Electrical Material	A. Electrical & Mech. Shop B. Zork Hdwe. C. Triangle Electric
-23	C/S Electrical Material	A. Refinery B. Triangle Electric
-24	C/S Electrical Material	Zork
-25	C/S Electrical Material	A. El Paso - B. Edward Hdwe
-26	C/S P609-1	C. H. Welch Lead & Northrup
-27	C/S Electrical Material	A. Mine & Smelter - B. Zork Hdwe
-30	P-240, P-241, P-6001	B. Hollywood Electric Graybar
-31	Power Line Hardware	Zork Hdwe.
-32	9LA2HC53, 9L11LAW844	General Electric
-53	C/S Elect. Wire	
-54	Conduit, Supports & Junc. Box	
-55	Lighting Fixtures	
-56	Misc. Electrical Items	
-58	Nameplates & Tags	
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INDUSTRIAL FABRICATING CO.

CUSTOMER CATALYTIC CONSTRUCTION CO. (STD. OIL CO. OF TEXAS)

BILL OF MATERIAL

Sht. 2 of 2

Size:	35" x 20"	Unit Delivery Date	DEC. 4, 1964	W.O. No:	S-2721-B			
Type:	BEU	Mat'l Req'd By		File No:	5981			
QTY.	PART NO.	NO. REQ'D	DESCRIPTION OF ONE	SPEC.	STOCK NO.	PURCH. ORDER NO.	MAT'L DEL. SPECIFIED OR CONFIRMED	PURCH. OR ALLOC.
BUNDLE MAT'L.								
(19)	1	R	37 1/4" O.D. x 6 5/8" THK.	NORM. SA-212-B				10-26
(21)	426	-	3/4" O.D. x 11 BWG (AVG) TUBES	CR-SA214 (A-450)				
PER BEND SCHEDULE								
(22)	11	R's	35 1/16" O.D. x 5/8" THK. (BAFFLES)	STL.				12-6
	230		1/2" x TIE RODS					
	230		3/4" x SPACER TUBING					
	2	R's	15 3/4" x 1/16" x 3 1/2" LG. (LONG BAFFLE STAYS)					
	4		3/4" x 2" LG. 10NC. 2A THD. PLUGS					
	48		1/2" HEX NUTS					
LONG BAFFLE MAT'L.								
	1	R	35 1/8" x 1/16" x 18-11 1/4" LG.	STL.				12-6
	2	BAR'S	3/4" x 1/4" x 18-8 1/4" LG.	STL.				
	8	STRIPS	1 1/2" x .0075" THK x 18-8 1/4" LG.	TR 302 STL.				
	4	STRIPS	1 1/2" x .0075" THK x 8 1/16" LG.					
	94		3/16" x 1 1/2" LG. HEX-HD. CAP SCREWS	STL.				12-6
71-HEX-NUT EA.								
- MISC. MAT'L. -								
*	2	CHAN. GSKT	37 1/16" O.D. x 3/16" I.D. x 1/8" THK	SOLID ARMCO IRON				
*	2	SHELL						
	36		1 1/2" x 20 3/4" LG. 3 THD STUDS (347)	SA-193-B7				
	72		1 1/2" HEX NUTS	SA-194-2H				
	1		I.F.C. NAME PL. EMBLEM w/ BRACKET					
	1		1/16" THK ASS. SER. SHEET 1/2" x 35 1/4" LG.	JM#60				
	1		R LIFTING LUG (3 1/2" x 4" LG) PER STD DWG 8000 STL.					
SHELL MAT'L CONT'D FROM SHT. 1 OF 2								
(22)	4	R's	5 1/2" x 3/4" x 17 1/2" LG. (SUPPORTS)	STL.				12-6
(23)	2	R's	1/2" x 1 1/2" x 15 1/16" LG. ()					12-6
(24)	2	R's	PER DWG. ()					
(25)	4	R's	5 1/2" x 1/2" x 17 1/2" LG. ()					12-6
- BLIND FLANGE MAT'L -								
**	16		R20 OCTAGONAL RING GASKETS	CAR. STL.				
	16		3/4" x U.S.S. THD STUDS x 4 1/4" LG.	SA-193-B7				
	32		3/4" HEX NUTS	SA-194-2H				
CHEV B8 6251								
VP 314-20-01-01-1-170 R2. SW-2								

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VP 314 20-01-01-1-170 R1. C-2