

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE CITY AND COUNTY OF SAN FRANCISCO

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MANUEL LUNA,

PLAINTIFF (S).

-VS-

ABEX CORPORATION, et. al.,

DEFENDANT (S).

PLAINTIFF'S EXHIBIT

ET-34

No. 954371

RECEIVED
APR 13 1995

IMAI, TADLOCK, KEENT

924.59.A

RECORDS and/or EXHIBITS

PERTAINING TO:

DEPOSITION OF ROSS A. HACKER

April 5, 1995

Plaintiff's A - I

TOOKER & ANTZ

CERTIFIED SHORT HAND REPORTERS

131 STEUART STREET
SAN FRANCISCO 94105
(415) 392-0650

FREDERIC R. TOOKER

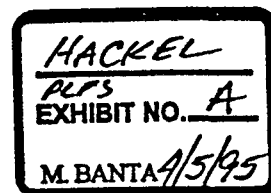
KEMBLE ANTZ

BRAYTON, GISVOLD & HARLEY
ATTORNEYS AT LAW
999 GRANT AVENUE
P.O. BOX 2109
NOVATO, CALIFORNIA 94948
(415) 898-1555

ALAN R. BRAYTON, ESQ., S.B. #73685
ERIC R. WAGNER, ESQ., S.B. #142388
BRAYTON, GISVOLD & HARLEY
Attorneys at Law
999 Grant Avenue
P.O. Box 2109
Novato, California 94948
(415) 898-1555

Attorneys for Plaintiffs

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SAN FRANCISCO



MANUEL LUNA,

Plaintiff,

vs.

ABEX CORPORATION, et al.,

Defendants.

No. 954371

SECOND RE-NOTICE OF TAKING
DEPOSITION AND REQUEST FOR
PRODUCTION OF DOCUMENTS

TO ALL DEFENDANTS HEREIN AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that pursuant to the previously served Notice of Taking Deposition and Request for Production of Documents, plaintiffs will now take the deposition of defendant ELLIOTT COMPANY's Person(s) Most Knowledgeable and Custodian(s) of Records on the following date(s) and time(s):

ELLIOTT COMPANY

April 5, 1995

COR 10:00 a.m.

PMK 11:00 a.m.

This deposition will be recorded stenographically and will continue day to day until complete.

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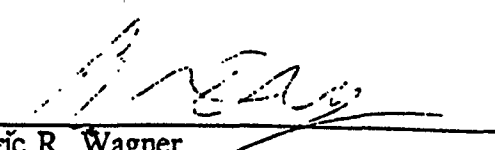
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RAH AB
CAD 4/5/95
MDP

1 Counsel are requested to call plaintiff's counsel's deposition hotline the day before
2 the scheduled deposition, (415)899-1011, extension 152, to confirm whether the deposition will
3 be going forward as scheduled.

4 Dated: 7-27-85

BRAYTON, GISVOLD & HARLEY

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6 By: 
7 Eric R. Wagner
8 Attorneys for Plaintiff
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BRAYTON, GISVOI, Harley
ATTORNEYS AT LAW
999 GRANT AVENUE
P.O. BOX 2109
NOVATO, CALIFORNIA 94948
(415) 896-1555

PROOF OF SERVICE BY MAIL

I am employed in the County of Marin, State of California. I am over the age of 18 years and am not a party to the within action. My business address is 999 Grant Avenue, Novato, California 94947.

On March 20, 1995, I served the within:

**SECOND RE-NOTICE OF TAKING DEPOSITION AND REQUEST FOR
PRODUCTION OF DOCUMENTS**

on the interested parties in this action by transmitting a true copy thereof in the following manner.

I caused each of the above document(s) to be placed in a sealed envelope, postage thereon prepaid, addressed and served as follows:

SEE ATTACHED LIST OF DEFENDANTS

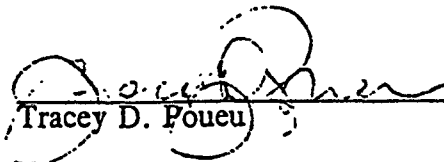
BERRY & BERRY
Station D., P.O. Box 70250
Oakland, CA 94612-0250

BY MAIL SERVICE:

I am readily familiar with the business practice at my place of business for collection and processing of correspondence for delivery by mail. Correspondence so collected and processed is deposited with the United States Postal Service on the same day in the ordinary course of business. On the above date the said envelope was collected for the United States Postal Service following ordinary business practices.

Executed this 20th day of March, 1995, at Novato, California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.


Tracey D. Foueu

Maanuel Luna v. Abex Corporation, et al.
San Francisco Superior Court Case No. 954371

RUN DATE: 03/20/95 BY TP
SORT BY: ATTORNEY ID
Luna, Manuel

BRAYTON, GISVOLD & HARLEY
SERVICE LIST

PAGE: 1

TTER ELECTRIC INC Adams, Nye, Sinunu & Walker One Jackson Place 633 Battery St., 5th Floor San Francisco, CA 94111 (415) 982-8955 (415) 982-2042	GARLOCK INC Glaspy & Glaspy One Walnut Creek Center 100 Pringle Ave., Ste. 750 Walnut Creek, CA 94596 (510)947-1300 (510)947-1594	ANCHOR PACKING COMPANY Glaspy & Glaspy One Walnut Creek Center 100 Pringle Ave., Ste. 750 Walnut Creek, CA 94596 (510)947-1300 (510)947-1594	MH DETRICK COMPANY Gordon & Rees Embarcadero Center West 275 Battery Street, 20th Fl San Francisco, CA 94111 (415)986-5900 (415)986-8
RAPID AMERICAN CORP Gordon & Rees Embarcadero Center West 275 Battery Street, 20th Floor San Francisco, CA 94111 (415)986-5900 (415)986-8054	GAF CORPORATION Haight, Brown & Bonesteel (SF) 201 Sansome St., Suite 300 San Francisco, CA 94104 (415)986-7700 (415)986-6945	ARMSTRONG WORLD INDUSTRIES Haight, Brown & Bonesteel (SF) 201 Sansome St., Suite 300 San Francisco, CA 94104 (415)986-7700 (415)986-6945	AP GREEN REFRACTORIES CO Haight, Brown & Bonesteel (SF) 201 Sansome St., Suite 300 San Francisco, CA 94104 (415)986-7700 (415)986-6
FLEXITALLIC INC Haight, Brown & Bonesteel (SF) 201 Sansome St., Suite 300 San Francisco, CA 94104 (415)986-7700 (415)986-6945	T&N PLC (TURNER & NEWALL) Haight, Brown & Bonesteel (SF) 201 Sansome St., Suite 300 San Francisco, CA 94104 (415)986-7700 (415)986-6945	ELLIOTT Imai, Tadlock & Keeney 180 Montgomery St., Ste. 1000 San Francisco, CA 94104 (415)989-8687 (415)989-7640	PLANT INSULATION COMPANY Jackson & Wallace 1 Maritime Plaza 22nd Floor San Francisco, CA 94111 (415)982-6300 (415)982-6
KAISER CEMENT CORPORATION Kincaid, Gianunzio P.O. Box 1828 200 Webster Street, Suite 200 Oakland, CA 94604-0828 (510)465-5212 (510)465-0362	BECK ELECTRICAL SUPPLY Low, Ball & Lynch 601 California Street 21st Floor San Francisco, CA 94108 (415)981-6630 (415)982-1634	NORTH AMERICAN REFRACTORIES CO Paetzold, White & Brodsky 101 California Street Suite 1875 San Francisco, CA 94111 (415)249-0966 (415)249-0964	CHEVRON USA PRODUCTS COMPANY Sedgwick, Detert, et al. One Embarcadero Center 16th Floor San Francisco, CA 94111-376 (415)781-7900 (415)781-2
CIFIC GAS AND ELECTRIC CO Sedgwick, Detert, et al. One Embarcadero Center 16th Floor San Francisco, CA 94111-3765 (415)781-7900 (415)781-2635	ASBESTOS CORPORATION LIMITED Stevens, Drummond & Gifford 1910 Olympic Blvd. Suite 250 Walnut Creek, CA 94596 (510)944-5550 (510)256-9669	AMERICAN ASBESTOS COMPANY Vogl & Meredith 456 Montgomery St., 20th Floor San Francisco, CA 94104 (415)398-0200 (415)398-2820	MALTBY ELECTRIC SUPPLY CO INC Walsworth, Franklin, et al. 580 California St., Ste. 11 San Francisco, CA 94104 (415)781-7072 (415)391-6

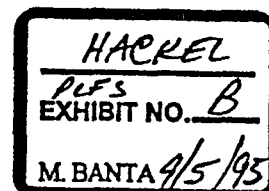
<<END OF REPORT>>

BRAYTON, GISVOLD & HARLEY
ATTORNEYS AT LAW
999 GRANT AVENUE
P.O. BOX 2109
NOVATO, CALIFORNIA 94948
(415) 898-1555

1 ALAN R. BRAYTON, ESQ., S.B. #73685
2 ERIC R. WAGNER, ESQ., S.B. #142388
3 BRAYTON, GISVOLD & HARLEY
4 Attorneys at Law
5 999 Grant Avenue
6 P.O. Box 2109
7 Novato, California 94948
8 (415) 898-1555

9 Attorneys for Plaintiffs

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SUPERIOR COURT OF CALIFORNIA
COUNTY OF SAN FRANCISCO



MANUEL LUNA,

Plaintiff,

vs.

ABEX CORPORATION, et al.,

Defendants.

No. 954371

RE-NOTICE OF TAKING DEPOSITION
AND REQUEST FOR PRODUCTION OF
DOCUMENTS

TO ALL DEFENDANTS HEREIN AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that on the dates and times set forth below, at the offices of Tooker and Antz, located at 131 Steuart Street, Suite 201, San Francisco, California 94105, plaintiffs will take the deposition of the custodian of records (hereinafter "COR") and the person most knowledgeable (hereinafter "PMK") of defendant ELLIOT COMPANY:

January 5, 1995

ELLIOTT COMPANY

COR 10:00 a.m.

PMK 11:00 a.m.

This deposition will continue day to day until complete.

Pursuant to California Code of Civil Procedure section 2025(h), plaintiffs in the above-captioned action hereby request defendant to bring to the deposition for inspection and copying by Brayton, Gisvold & Harley, the documents and things described below. This notice to

1 produce specifically embraces, in addition to documents within the possession, custody, or
2 control of said defendant, documents within the possession, custody or control of its agents,
3 representatives or attorneys. This notice to produce also embraces originals, identical copies
4 if the original is unavailable, all nonidentical copies (whether different from the original
5 because of notes made on such copies or otherwise), and other documents described herein.

6 As used herein, the word "WRITINGS" shall mean "WRITINGS" as defined by
7 Evidence Code Section 250.

8 The words "YOU" or "YOURS" mean the named defendant herein and all predecessors
9 and successors in interest of the named defendant.

10 DOCUMENTS TO BE PRODUCED
11 *Custodian of Records*

12 Category No. 1.

13 Any and all WRITINGS pertaining to the supply, sale or distribution of asbestos-
14 containing products by YOU to General Electric Company, Oakland, CA, at any time
15 during 1960 to 1967.

16 Category No. 2.

17 Any and all WRITINGS pertaining to the supply, sale or distribution of asbestos-
18 containing products by YOU to Standard Oil, Richmond, CA, at any time during 1960
19 to 1967.

20 Category No. 3.

21 Any and all WRITINGS pertaining to the supply, sale or distribution of asbestos-
22 containing products by YOU to Ames Research Center, Mountain View, CA, at any time
23 during 1960 to 1967.

24 Category No. 4.

25 Any and all WRITINGS pertaining to the supply, sale or distribution of asbestos-
26 containing products by YOU to Hunters Point Naval Shipyard, San Francisco, CA, at any time
27 from 1960 to 1973.

28 Category No. 5.

Any and all WRITINGS pertaining to the supply, sale or distribution of asbestos-
containing products by YOU to City of San Francisco, Municipal Railway, San Francisco, CA,
at any time from 1966 to 1974.

Category No. 6.

Any and all WRITINGS pertaining to the supply, sale or distribution of asbestos-
containing products by YOU to Mare Island Naval Shipyard, Vallejo, CA, at any time from
1966 to present.

Category No. 7.

Any and all WRITINGS identifying the person(s) responsible for acquisition, purchase and/or distribution of asbestos-containing products by YOU to the job sites set forth in categories one (1) through six (6) above.

Category No. 8.

Any and all plans, specifications, blueprints, as built, or any other such writings which concern the use or installation of asbestos-containing products by YOU at the job sites set forth in categories one (1) through six (6) above.

Category No. 9

Any and all WRITINGS identifying the manufacturer(s) of asbestos-containing product or materials supplied, installed, sold, or distributed by YOU to the job sites set forth in categories one (1) through six (6) above.

Category No. 10

Any and all WRITINGS identifying the supplier(s) of asbestos-containing products or materials to the job sites set forth in categories one (1) through six (6) above.

Category No. 11.

Any and all WRITINGS identifying the distributor(s) of asbestos-containing products or materials to the job sites set forth in categories one (1) through six (6) above.

Category No. 12.

Any and all WRITINGS, including but not limited to, contracts, bills of lading, bills, sales receipts, purchase orders, requisition forms, and/or customer lists which identify the suppliers of any asbestos-containing products which were supplied, sold or installed at the job sites set forth in categories one (1) through six (6) above.

Category No. 13.

Any and all WRITINGS reflecting workers' compensation claims made for alleged asbestos-related injuries sustained by your employees.

Category No. 14.

Any and all WRITINGS which identify when YOU first learned of the potential hazards associated with asbestos exposure.

Category No. 15.

Any and all WRITINGS which reflect the first date when YOU warned any person, including but not limited to your own employees or your customers, of the potential hazards associated with asbestos exposure.

Category No. 16.

Any and all WRITINGS identifying the full and exact corporate name, the date of incorporation, the date of merger or acquisition and/or the date of dissolution of any entity which merged with, or which was purchased or otherwise acquired by YOU, or a predecessor or subsidiary.

1 The witness will be required to answer questions concerning the documents produced
2 at the deposition.

3 IT IS FURTHER NOTICED that on the date and time set forth above, and continuing
4 each day thereafter and until completed, at the court reporting offices of Tooker & Antz, 131
5 Steuart Street, San Francisco, California, plaintiffs will take the deposition of the person or
6 persons presently employed by defendant who are most qualified and most knowledgeable about
7 the matters set forth below.

8 California Code of Civil Procedure §2025 mandates that defendant "designate and
9 produce" the officers or employees "most qualified" to testify on its behalf as to knowledge
10 of the matters set forth in this notice of deposition. The person or persons so designated by
11 defendant must testify "to the extent of any information known or reasonably available" to
12 defendant (C.C.P. §2025(d)).

13 CATEGORIES OF INFORMATION
14 *Person Most Knowledgeable*

15 Category No. 1.

16 All INFORMATION pertaining to the supply, sale or distribution of asbestos-containing
17 products by YOU to General Electric Company, Oakland, CA, at any time during 1960
18 to 1967.

19 Category No. 2.

20 All INFORMATION pertaining to the supply, sale or distribution of asbestos-containing
21 products by YOU to Standard Oil, Richmond, CA, at any time during 1960 to 1967.

22 Category No. 3.

23 All INFORMATION pertaining to the supply, sale or distribution of asbestos-containing
24 products by YOU to Ames Research Center, Mountain View, CA, at any time during 1960 to
25 1967.

26 Category No. 4.

27 All INFORMATION pertaining to the supply, sale or distribution of asbestos-containing
28 products by YOU to Hunters Point Naval Shipyard, San Francisco, CA, at any time from 1960
to 1973.

Category No. 5.

All INFORMATION pertaining to the supply, sale or distribution of asbestos-containing
products by YOU to City of San Francisco, Municipal Railway, San Francisco, CA, at any
time from 1966 to 1974.

1 Category No. 6.

2 All INFORMATION pertaining to the supply, sale or distribution of asbestos-containing
3 products by YOU to Mare Island Naval Shipyard, Vallejo, CA, at any time from 1966 to
4 present.

5 Category No. 7.

6 All INFORMATION identifying the person(s) responsible for aquisition, purchase
7 and/or distribution of asbestos-containing products by YOU to the job sites set forth in
8 categories one (1) through six (6) above.

9 Category No. 8.

10 All INFORMATION concerning plans, specifications, blueprints, as built, or any other
11 such writings which concern the use or installation of asbestos-containing products by YOU
12 at the job sites set forth in categories one (1) through six (6) above.

13 Category No. 9.

14 All INFORMATION identifying the manufacturer(s) of asbestos-containing products or
15 materials supplied, installed, sold, or distributed by YOU to the job sites set forth in
16 categories one (1) through six (6) above.

17 Category No. 10.

18 All INFORMATION identifying the supplier(s) of asbestos-containing products or
19 materials to the job sites set forth in categories one (1) through six (6) above.

20 Category No. 11.

21 All INFORMATION identifying the distributor(s) of asbestos-containing products or
22 materials to the job sites set forth in categories one (1) through six (6) above.

23 Category No. 12.

24 All INFORMATION concerning contracts, bills of lading, bills, sales receipts, purchase
25 orders, requisition forms, and/or customer lists which identify the suppliers of any
26 asbestos-containing products which were supplied, sold or installed at the job sites set
27 forth in categories one (1) through six (6) above.

28 Category No. 13.

 All INFORMATION reflecting workers' compensation claims made for alleged
 asbestos-related injuries sustained by your employees.

Category No. 14.

 All INFORMATION which identify when YOU first learned of the potential hazards
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Category No. 15.

 All INFORMATION which reflect the first date when YOU warned any person,
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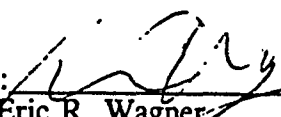
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Category No. 16.

All INFORMATION identifying the full and exact corporate name, the date of incorporation, the date of merger or acquisition and/or the date of dissolution of any entity which merged with, or which was purchased or otherwise acquired by YOU, or a predecessor or subsidiary.

Dated: 12/13/14

BRAYTON, GISVOLD & HARLEY

By: 
Eric R. Wagner
Attorneys for Plaintiff

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PROOF OF SERVICE BY MAIL

I am employed in the County of Marin, State of California. I am over the age of 18 years and am not a party to the within action. My business address is 999 Grant Avenue, Novato, California 94947.

On December 14, 1994, I served the within:

RE-NOTICE OF TAKING DEPOSITION AND REQUEST FOR PRODUCTION OF DOCUMENTS

on the interested parties in this action by transmitting a true copy thereof in the following manner.

I caused each of the above document(s) to be placed in a sealed envelope, postage thereon prepaid, addressed and served as follows:

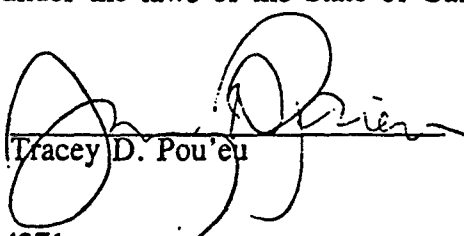
SEE ATTACHED LIST OF DEFENDANTS

BERRY & BERRY
Station D., P.O. Box 70250
Oakland, CA 94612-0250

BY MAIL SERVICE: I am readily familiar with the business practice at my place of business for collection and processing of correspondence for delivery by mail. Correspondence so collected and processed is deposited with the United States Postal Service on the same day in the ordinary course of business. On the above date the said envelope was collected for the United States Postal Service following ordinary business practices.

Executed this 14th day of Dec, 1994, at Novato, California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.


Tracey D. Pou'eu

Manuel Luna v. Abex Corporation, et al.
San Francisco Superior Court Case No. 954371

RIIM DATE: 12/12/94 BY DHC
SORT BY: ATTORNEY ID
CLIENT: 5289 - Linda, Mannel

BRAYTON, GISSNID & HARLEY
SERVICE LIST

PAGE: 1

POTTER ELECTRIC, INC.
Adams, Nye, Simons & Walker
One Jackson Place
433 Battery St., 5th Floor
San Francisco, CA 94111
(415) 982-8955 (415) 982-2842

CARLOCK, INC.
Glaspy & Glaspy
One Walnut Creek Center
188 Pringle Ave., Ste. 750
Walnut Creek, CA 94596
(510) 947-1388 (510) 947-1594

ANCHOR PACKING COMPANY
Glaspy & Glaspy
One Walnut Creek Center
188 Pringle Ave., Ste. 750
Walnut Creek, CA 94596
(510) 947-1388 (510) 947-1594

DETRICK, M.H. COMPANY
Gordon & Ross
Embarcadero Center West
275 Battery Street, 28th
San Francisco, CA 94111
(415) 986-5988 (415) 986-

FLEXITALITE, INC.
Haight, Brown & Bonesteel
281 Sansone St., Suite 300
San Francisco, CA 94104
(415) 986-7788 (415) 986-6945

CAF CORPORATION
Haight, Brown & Bonesteel
281 Sansone St., Suite 300
San Francisco, CA 94104
(415) 986-7788 (415) 986-6945

ARMSTRONG WORLD INDUSTRIES
Haight, Brown & Bonesteel
281 Sansone St., Suite 300
San Francisco, CA 94104
(415) 986-7788 (415) 986-6945

A.P. GREEN REFRACTORIES CO.
Haight, Brown & Bonesteel
281 Sansone St., Suite 300
San Francisco, CA 94104
(415) 986-7788 (415) 986-

TURNER & NEWALL
Haight, Brown & Bonesteel
281 Sansone St., Suite 300
San Francisco, CA 94104
(415) 986-7788 (415) 986-6945

WESTERN MACARTHUR COMPANY
Hardin, Cook, et al.
Lake Merritt Plaza
1999 Harrison Street
Oakland, CA 94612
(510) 444-3131 (510) 839-7948

ELLIOTT
Inai, Tadlock & Kenney
188 Montgomery St., Ste. 1800
San Francisco, CA 94104
(415) 989-8687 (415) 989-7648

PLANT INSULATION COMPANY
Jackson & Wallace
1 Maritime Plaza
22nd Floor
San Francisco, CA 94111
(415) 982-6388 (415) 982-

KAISER CEMENT CORPORATION
Kincaid, Giannazio
P.O. Box 1828
288 Webster Street
Oakland, CA 94604-8828
(510) 465-5212 (510) 465-8362

BECK ELECTRIC SUPPLY
Inu, Ball & Lynch
401 California Street
21st Floor
San Francisco, CA 94108
(415) 981-6638 (415) 987-1634

NORTH AMERICAN REFRACTORIES CO.
Paetzold, White & Brudsky
181 California Street
Suite 1875
San Francisco, CA 94111
(415) 249-8966 (415) 249-8964

MAHY CORP. ASB. DISFAS. CORP. F
Ropers, Majeski et al.
678 Howard Street
San Francisco, CA 94105
(415) 543-4888

CHEVRON USA, INC.
Sedgwick, Detert, et al.
One Embarcadero Center
16th Floor
San Francisco, CA 94111
(415) 781-7988 (415) 781-2635

PACIFIC GAS AND ELECTRIC CO.
Sedgwick, Detert, et al.
One Embarcadero Center
16th Floor
San Francisco, CA 94111
(415) 781-7988 (415) 781-2635

ASBESTOS CORPORATION LIMITED
Stevens, Drummond & Gifford
1918 Olympic Blvd.
Suite 250
Walnut Creek, CA 94596
(510) 944-5550 (510) 256-9669

KAISER ALUMINUM & CHEMICAL
Thelen, Marrin, et al.
Two Embarcadero Center
Suite 2100
San Francisco, CA 94111
(415) 392-6328 (415) 421-

AMERICAN ASBESTOS COMPANY
Vogl & Meredith
456 Montgomery St., 28th Floor
San Francisco, CA 94104
(415) 398-8288 (415) 398-2828

MATRY ELECTRIC SUPPLY CO., INC
Walsworth, Franklin, et al.
580 California St., Ste. 1335
San Francisco, CA 94104
(415) 781-7872 (415) 391-6258

BEF ENGINEERING COMPANY
Walsworth, Franklin, et al.
580 California St., Ste. 1335
San Francisco, CA 94104
(415) 781-7872 (415) 391-6258

((END OF REPORT))

SO.#

Y-2295

6601



1/2295 C30630 SF662188

STANDARD OIL CO., OF CALIF.
WESTERN OPERATIONS, INC. H-75585-R
ATTN: R.D. MURRAY
RICHMOND, CALIFORNIA

SHIPMENT NO.		DATE SHIPPED	
SHIPPED FROM			
HOW SHIPPED			
SCHEDULED SHIPPING DATE			
TRANSPORTATION CHARGES			
1. UNIT POINT	2. C. S. RATE	3. CHARGE	
4. F. M.	5. T. M. RATE	6. CH.	
7. DIST. FEE		8. CH.	

*AP		*SI	*HU SHIP		*DIST	*REQ METHOD OF SHIP		*ADDITIONAL MARKS		*TERMS NET TO DAYS UNLESS OTHERWISE INDICATED BELOW		*S V		*AI PA	
*SHIP CODE	*Y	*C	*MU	*LAT	*CODE							1911		1974	
0500X		S071004		NORWALK/RINGSBY								136JLH			

[illegible]

N1 FOR 2DYR TURBINE S/N Y2295
N2 COLLECT FROM STND OIL OF CALIF WESTERN OPERATIONS
INC TRAFFIC & DISTRIBUTION DEPT P.O. BOX 3495
SAN FRANCISCO, CALIFORNIA 94120
N3 REQUIRED BY 7-30-66 OR EARLIER

[illegible]

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[illegible]

100

Repair Order Initials

7.13.

Draftsman's Initials

Date _____

2-2-66

Date _____

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2-3

Elliott
DIVISION OF
CARRIER CORPORATION
BANNETT, PA

WR H281X-389 01286 H281X-389

STANDARD OIL COMPANY OF CALIF
PURCHASE & STORES
555 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94120

STANDARD OIL COMPANY OF CALIF
ATTN: R D MURRAY - RICHMOND REFINERY
RICHMOND, CALIFORNIA

WHEN REMITTING
REFER TO

Y1295 C30128 SF 662059

1. FL CODE 2. 1 3. 2 4. 3 5. 4 6. 5 7. 6 8. 7 9. 8 10. 9 11. 0 12. 1 13. 2 14. 3 15. 4 16. 5 17. 6 18. 7 19. 8 20. 9 21. 0 22. 1 23. 2 24. 3 25. 4 26. 5 27. 6 28. 7 29. 8 30. 9 31. 0 32. 1 33. 2 34. 3 35. 4 36. 5 37. 6 38. 7 39. 8 40. 9 41. 0 42. 1 43. 2 44. 3 45. 4 46. 5 47. 6 48. 7 49. 8 50. 9 51. 0 52. 1 53. 2 54. 3 55. 4 56. 5 57. 6 58. 7 59. 8 60. 9 61. 0 62. 1 63. 2 64. 3 65. 4 66. 5 67. 6 68. 7 69. 8 70. 9 71. 0 72. 1 73. 2 74. 3 75. 4 76. 5 77. 6 78. 7 79. 8 80. 9 81. 0 82. 1 83. 2 84. 3 85. 4 86. 5 87. 6 88. 7 89. 8 90. 9 91. 0 92. 1 93. 2 94. 3 95. 4 96. 5 97. 6 98. 7 99. 8 100. 9 101. 0 102. 1 103. 2 104. 3 105. 4 106. 5 107. 6 108. 7 109. 8 110. 9 111. 0 112. 1 113. 2 114. 3 115. 4 116. 5 117. 6 118. 7 119. 8 120. 9 121. 0 122. 1 123. 2 124. 3 125. 4 126. 5 127. 6 128. 7 129. 8 130. 9 131. 0 132. 1 133. 2 134. 3 135. 4 136. 5 137. 6 138. 7 139. 8 140. 9 141. 0 142. 1 143. 2 144. 3 145. 4 146. 5 147. 6 148. 7 149. 8 150. 9 151. 0 152. 1 153. 2 154. 3 155. 4 156. 5 157. 6 158. 7 159. 8 160. 9 161. 0 162. 1 163. 2 164. 3 165. 4 166. 5 167. 6 168. 7 169. 8 170. 9 171. 0 172. 1 173. 2 174. 3 175. 4 176. 5 177. 6 178. 7 179. 8 180. 9 181. 0 182. 1 183. 2 184. 3 185. 4 186. 5 187. 6 188. 7 189. 8 190. 9 191. 0 192. 1 193. 2 194. 3 195. 4 196. 5 197. 6 198. 7 199. 8 200. 9 201. 0 202. 1 203. 2 204. 3 205. 4 206. 5 207. 6 208. 7 209. 8 210. 9 211. 0 212. 1 213. 2 214. 3 215. 4 216. 5 217. 6 218. 7 219. 8 220. 9 221. 0 222. 1 223. 2 224. 3 225. 4 226. 5 227. 6 228. 7 229. 8 230. 9 231. 0 232. 1 233. 2 234. 3 235. 4 236. 5 237. 6 238. 7 239. 8 240. 9 241. 0 242. 1 243. 2 244. 3 245. 4 246. 5 247. 6 248. 7 249. 8 250. 9 251. 0 252. 1 253. 2 254. 3 255. 4 256. 5 257. 6 258. 7 259. 8 260. 9 261. 0 262. 1 263. 2 264. 3 265. 4 266. 5 267. 6 268. 7 269. 8 270. 9 271. 0 272. 1 273. 2 274. 3 275. 4 276. 5 277. 6 278. 7 279. 8 280. 9 281. 0 282. 1 283. 2 284. 3 285. 4 286. 5 287. 6 288. 7 289. 8 290. 9 291. 0 292. 1 293. 2 294. 3 295. 4 296. 5 297. 6 298. 7 299. 8 300. 9 301. 0 302. 1 303. 2 304. 3 305. 4 306. 5 307. 6 308. 7 309. 8 310. 9 311. 0 312. 1 313. 2 314. 3 315. 4 316. 5 317. 6 318. 7 319. 8 320. 9 321. 0 322. 1 323. 2 324. 3 325. 4 326. 5 327. 6 328. 7 329. 8 330. 9 331. 0 332. 1 333. 2 334. 3 335. 4 336. 5 337. 6 338. 7 339. 8 340. 9 341. 0 342. 1 343. 2 344. 3 345. 4 346. 5 347. 6 348. 7 349. 8 350. 9 351. 0 352. 1 353. 2 354. 3 355. 4 356. 5 357. 6 358. 7 359. 8 360. 9 361. 0 362. 1 363. 2 364. 3 365. 4 366. 5 367. 6 368. 7 369. 8 370. 9 371. 0 372. 1 373. 2 374. 3 375. 4 376. 5 377. 6 378. 7 379. 8 380. 9 381. 0	
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TAX		USE		REG SHIP		DISC		REQ METHOD OF SHIP		ADDITIONAL MARKS		TERMS NET 30 DAYS UNLESS OTHERWISE INDICATED BELOW		SW		CH	
DIST CODE		1 2		3 4		5 6								INIT		APPR	
40500X		SEMER04		N1										146JLH			

[illegible]

N1 ITEM #1 SHIP AIR PARCEL POST SPECIAL DELIVERY, ITEM
#2 THRU #4 BY PARCEL POST REGULAR.
N2 ITEM #1 FOR 2AYRO S/N U-2386, ITEM #2 FOR 2AYRPO
S/N U-2406, ITEM #3 FOR 2BYR S/N 15069 AND ITEM #4
FOR 2DYR TURB S/N Y-2295.

SA LEY ALLOCATION		REP. ID	MODEL	PRODUCT CODE	PRODUCT CODE	MONTH	SER. CE PARTS	DATE	COMMISSIONS
DO	M					CHES		REQU	AGENT
6	SF	100431100							

C-4

00

ELLIOTT COMPANY

A DIVISION OF CARRIER CORPORATION

Jeannette

P.A.

PAGE OF

BUYERS ORDER NO.	DATE	REQ. NO.	CONTRACT NO.	DATE INITIATED	S.O./M.O. SERIAL NO.
H-52549-R	9/19			9/19	14956

SOLD
TO

Standard Oil Company of California
Western Operations, Inc.
225 Bush Street
San Francisco 20, California

SHIP
TO

Standard Oil Company of California
Western Operations, Inc., H-52549-R
Attention: Mr. R. W. Aldrich
Richmond, California

ARK:

H-52549-R

TERMS:

NET 30 DAYS
(NO CASH DISCOUNT ALLOWED)

TRANSPORTATION

F.O.B.

☒ SHIPPING POINT☐ DESTINATION☐ COLLECT☒ PREPAID☐ CHARGE☐ NO CHARGE

WHEN REMITTING REFER TO

GENERAL ORDER NO. **JA28-2270**

INVOICE DATE

INVOICE NO.

OTHER DEPT./DIV. G.O. NO.

SHIPPED FROM

DATE SHIPPED

HOW SHIPPED

ROUTE

CAR INITIALS AND NO.

REQUESTED METHOD OF SHIPMENT:

FREIGHT

☐ RAIL ☐ MOTOR ☐ AIRPARCEL POST ☐ RAIL ☐ AIREXPRESS **Roadway**☐ RAIL ☐ AIR **Ringsby**

SCHEDULED SHIPPING DATE

TEM	QUAN. ORDERED	DESCRIPTION	S.O.-M.O. SERIAL NUMBER	PRO- DUCT CODE	CAT.DWG. INDEX CODE OR ENG. NUMBER	F.I.C.	MAT'L	PATT. NO. - DWG. NO. AND/OR DETAILED DESCRIPTION
1	16	25413 PACKING RING ASSEM	437-6273	512	634159-7	2		
2	1	SEAL	432-6388		646704-1	5		

Do Not Insure

WK-50

RR

Repair Order Initials

9-27-63

Date

9-26-63

Draftsman's Initials

Date

C-5

ELLIOTT COMPANY
A DIVISION OF CARRIER CORPORATION

NORMAL MAINTENANCE PARTS LIST

for

Type 2D YR TurbineG.O. No. 1428-0273 Serial No. 4-2295 S.O. No. 4-2295 Instruction Book 100For STANDARD OIL CO. OF CALIFORNIA PO. # HAR 6-3016 Item

Item	Part Number	Catalog Number	Req'd Per Unit		Item	Part Number	Catalog Number	Req'd Per Unit	
Bearing Liner (Upper Half)	523	625781-5	2		Follower	574	646107-1	1	
Bearing Liner (Lower Half)	522	625781-6	2		Pin	677	646771-1	1	
Oil Ring	624	640927-1	4		Connection	654	646637-1	1	
Carbon Ring Assy. (Standard)	512	634159-7	8		Pin	675	646643-2	1	
Carbon Ring Assy. (Huhn)	512	—	—		Retaining Ring	673	P27E16	4	
Valve & Stem Assy. (Governor)	651-2-3	616899-145	1		Pin	672	646643-1	1	
Valve	651	634812-2	1		Shoulder Bolt	805	—	1	
Stem	652	647680-12	1		Block	808	—	2	
Pin	653	T-10218-75	1		Connection	807	—	1	
Pin	579	—	1		Weight Assembly	665	634349-7	3	
Sleeve	580	—	1		Spring (Governor)	667	646587-1	1	
Lockwasher	581	—	1		Ball Bearing	662	692358-2	1	
Nut	582	—	1		Bearing Case	663	646576-1	1	
Lockwasher	584	—	1		Spindle Assembly	700	629379-11	1	
Valve Seat	567	636413-5	1		Seal	681	646704-1	1	
Trip Pin	938	646374-1	1		Spring Seat	666	646693-3	1	
Adjusting Nut	937	647793-1	1		Connection	655	646572-1	1	
Trip Spring	940	641554-1	1		Adjusting Nut	668	646575-1	1	
"U" Lock Staple	942	650093-1	2						
Ball Bearing (Rotor Locating)	623	647226-2	1		Diaphragm	1476		1	
Retaining Ring	622	P27G38	1		Spring	1484		1	
Spring	540	646687-2	1		Adjusting Screw	1485		1	
Plunger Assembly	936	647517-4	1		Ball Bearing	1487		1	
Knife Edge	934	650293-1	1		Valve Stem	1491		1	
Knife Edge	963	692000-1	1		Pin	745		1	
Roll Pin	964	691999-1	1		Block	746		1	
Valve Stem Packing	573	637387-2	1		Bellows Assembly	1363		1	
Valve & Stem Assy. (Double Seated)	916	633792-10	1		Rod End	1371		1	
Valve & Stem Assy. (Single Seated)	930	—	1		Ball Bearing	1379		2	
Spring	922	645953-1	1		Bearing (Heim)	1382		1	
Spring (Resetting)	928	647629-1	1		Oil Pump	7			
					Oil Pump Coupling	7			
					Oil Pump & Coupling	7			
					Pin	1038		1	
					Heim Bearing	1046		2	
					Pin	1054		1	
					Pin	833		2	
					Pin	834		3	
					Link	1055		1	

1. Used on Units having Standard Governor, "F" Governor, "O" Governor, "W" Governor, or "PG" Governor.
2. Used on Units having Standard Governor, "F" Governor or "P" Governor.
3. Used on Units having "O" Governor or "W" Governor, or "F" Governor — Except Variable Ratio Linkage
4. Used on Units having "O" Governor or "W" Governor.
5. Used on Units having "P" Governor.
6. Used on Units having "POC" Governor.
7. Used on Units having "O" or "POC" Governors or "W" Governors.
8. Used on Units having "PG" Governor.
9. Used on Units having Standard Governor, "F" Governor, "O" Governor or "W" Governor.
10. Used on Units having "F" Governor with Variable Ratio Linkage

R. R. HENRY

C-9

ENGINEERING DEPARTMENT

SINGLE STAGE TURBINE AND/OR GEAR DESCRIPTIVE SPECIFICATIONS

DATE <i>6/27/61</i>	GENERAL ORDER <i>JY28-0273</i>	SHOP ORDER <i>Y-2295</i>
INLET CONN. SIZE <i>6"</i> GOV. VALVE SIZE <i>5 1/2"</i> <i>R.H.</i> EXHAUST CONN. <i>10 1/2"</i> TURB. ROT. L.H. <i>2263</i> (FROM GOV. END) ROTOR FOR <i>2263</i> R.P.M. MAX. TRIP TYPE GOV. <i>STD (LARGE)</i> SPEED CHANGER <i>HAND</i> () HAND VALVES UPPER LOWER INSUL. AND JACKETING STD. STYLE BASEPLATE SOLEPLATE COUPLING H.S. COUPLING L.S. GEAR OFFSET L.H. R.H. (FROM GOV. END) GEAR RATIO	GEAR NAME PLATE DATA GEAR SERIAL NO. RATING SIZE SERVICE FACTOR H.S. L.S. INSTR. BOOK NO. 200 SPECIAL	TURBINE NAME PLATE DATA TURBINE SERIAL NO. <i>Y-2295</i> TYPE <i>2D4R</i> HP <i>370</i> R.P.M. <i>1750</i> INLET <i>110</i> PSIG TEMP. <i>344</i> DEG. F EXH. <i>25</i> PSIG EXH. <i>IN HC ABS</i> TRIP SETTING <i>2100</i> R.P.M. NEMA CLASS TURB. <i>I</i> INSTR. BOOK NO. 100 SPECIAL

<u>OIL SYSTEM</u>		
TURB. BRGS. R.O. ☒	PIPING MAT'L.	OIL RESERVOIR
OIL PUMP SIZE ☐	GAL./100 R.P.M. DRIVEN FROM	
AUX. OIL PUMP	OIL COOLER	OIL FILTER

PAINTING REQUIREMENTS: STD.

SHIPPING PREPARATION: STD., CLASS A, SP-109, GR. 2, SLUSHING SP-501

SPECIAL CONSTRUCTION:

✓ FURNISH REVERSE OVERS (ONE P.C. CRG.)
 602469
 OUTLINE *602463*
DRIVEN MACHINE ☒ FURNISHED ☐ NOT FURNISHED*PUMP*

AUXILIARY APPARATUS:

REVISIONS	
BY	DATE
<i>FJB</i>	<i>8-14-61</i>
<i>FJB</i>	<i>8-28-61</i>

JUN 27 1961

C-8

EM O.	NAME OF PART	F.I.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.P.O. P.B.M. A.M.A.	QUAN
	2 DYR TURBINE	B/M	Y2295 - 40				B/M		1
2	NAME PLATE (TURBINE)	H	691496 -1			STNLS. STL.	PURCHASED STAMP AS FOLLOWS:		1
3				TURBINE SERIAL NO. TYPE 2 DYR	Y2295				
4				HP 370 INLET 1/10		R.P.M. 1750 PSIG.	TEMP. 374° F.		
5				EXH. 25 TRIP SETTING 2100		PSIG.	EXH — IN. HGABS. R.P.M.		
6				INSTRUCTION BOOK NO. 100					
7	DRIVE SCREWS (FOR ABOVE)	H	P22C22			STNLS. STL.	#6 x 1/4" LG. TYPE "U"		4
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18						ORDER COMPLETE DATE 8-16-61			
19									
20	ASSEMBLY								1
21	TEST						AS PER SP-30		1
22	INSPECTION								1
23	PAINTING						AS PER PS-402		1
24	SLUSHING AND SHIPPING PREP.						STD. CLASS A SP-109 GR. 2 SLUSHING		1
25							SP-501		

CATALOG
NO.

Y2295

LINE
N.

602464

O.

Y2295

EORD
NO.

JY28-0273

ONE TYPE 2 DYR TURBINE #Y2295

FOR: STANDARD OIL CO. OF CALIFORNIA

ASSEMBLY
BILL OF
MATERIAL

NAME OF PART	P.I.C. P.O. P.B.M.	CATALL NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.B.M. A.M.A.	QUAN.	✓
Casing Assem.	M	601455 -38				B/M		1	
Packing Case Assem.	M	625384 -4				See Note B/M		2	
Note:-See Piping Diagram Dwg. For Parts To Be Assembled On Pkg. Cases Before Bolting Pkg. Cases to Casing.									
Cap Screw (Pkg. Cases to Casing)	H	P23T226			-248A-2	5/8"-11 x 1" long Knurled Socket Hd.		4	
Cap Screw (Pkg. Cases to Casing)	H	P23T227			-248A-2	5/8"-11 x 1-1/4" long Knurled Socket Hd.		12	
Piping Diagram (Leakage)	B/M	612619 G1				B/M		1	
			*						
Sentinel Valve	M	P66J12				3/4" Set at 55* Purchased		1	
Plug (For Hand Valve Opening)	M	646659 -1						2	
Gasket (For Above)	H	646126 -7				Purchased		2	
Bearing Liner (Upper Half)	M-8	625781 -5				Purchased		2	
Bearing Liner (Lower Half)	M-8	625781 -6				Purchased		2	
Bearing Case (Steam End)	B/M	617531 G13				B/M		1	
End Support	M	646560 -6						1	
Mach. Bolt (Brg. Case to Support)	H	P10C263			-162A-2	5/8"-11 x 2" long Hex. Hd. S. F.		2	
Lockwasher (For Above)	H	P25A49			Steel	5/8" (.203" x .156) "Kantlink"		2	
Nuts (For Above)	H	P11A16			Steel	5/8"-11 Hex. S.F.		2	
Spacer (Brg. Case to Casing)	H	649581 -2			Steel	Make From Purchased Washer 649581-4		4	
Cap Screw (Brg. Case to Casing)	H	P23T289			-248A-2	7/8"-9 x 1-3/4" Long Knurled Socket Hd.		4	
Pin (Brg. Case To Casing)	H	T-10218 -84						2	

TALOG NO.	Y2295-40	Type	2 DYE	Turbine	S.O. NO.
	602464				W.O. NO.
	Y2295	For:-	STANDARD OIL CO. OF CALIFORNIA		QUAN.
CORD NO.	JY28-0273				DATE

QTY.	NAME OF PART	F.I.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.B.M. A.M.A.	QUAN.	✓
	Nozzle Ring	M	624906 -1	Note: Ream Nozzles as Specified Below					1	
7					633847 -14	REGULAR NOZZLES 69°/75°-20°-L.H. LOCATIONS #170 8 INCL. 11-12-13-14- 21-22-23-24			16	
8										
9						No 1ST OVL. NOZZLES				
0						No 2ND OVL. NOZZLES				
1										
2				Note:-See Reaming Diagram 633783 for locations of above nozzles						
3	Cap Screw (For Nozzle Ring)	H	P23T226			-162A-2	5/8"-11 x 1" long Knurled Socket Hd.		24	
4	Cap Screw (For Nozzle Ring)	H	P23T259			-162A-2	3/4"-10 x 1-3/4" long Knurled Socket Hd.		24	
5	Lockwasher (For Nozzle Ring)	H	P25R28			Cad. Pl. Steel	3/4" Shakeproof		24	
5	Lockwasher (For Nozzle Ring)	H	P25R26			Cad. Pl. Steel	5/8" Shakeproof		24	
7										
3										
	Bucket Holder Assembly	M	624911 -9			LOCATED PER ARRGT. #6 AS SHOWN ON DWG 624911 B/M			2	
	Cap Screw (For Bucket Holder)	H	P23T202			-162A-2	1/2"-13 x 2-1/2" lg. Knurled Socket Hd.		6	
	Lockwasher (For Above)	H	P25R24			Cad. Pl. Steel	1/2" Shakeproof		6	
	Spacer (For Bucket Holder)	H	645997 -1						6	
	Trip Pin Spring	H	641534 -1				Purchased		1	
	Trip Pin	H	640374 -1						1	
	Trip Pin Adj. Nut	H	647793 -1						1	
	Trip Pin Lockwire	H	650093 -1						2	
	Trip Pin Washer	H	E-62901 -1						1	
	Rotor Assembly	B/M	613459 -44				L.H. Rot. B/M		1	
	Packing Ring Assembly	M	634159 -7				B/M		8	

TALOG NO.	42295-40	Type	2DYE	Turbine	S.O. NO.	
	602467				W.O. NO.	
QTY.	42295	For:-	STANDARD OIL CO. OF CALIFORNIA			QUAN.
CORD NO.	JY28-0273				DATE	
REP. BY	E.N.	DATE				

ITEM NO.	NAME OF PART	F.I.C. P.O. P.S.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.S.M. A.M.A.	QUAN.
	Oil Rings	H-8	640927-1						4
52	Bearing Ped. Assem. (Exh. End)	B/M	601987 G3				B/M		1
53	Spacer (Ped. To Casing)	H	649581-2			Steel	Make From Purchased Washer 649581-4		4
54	Stud (Ped. To Casing)	H	646006-5						2
55	Taper Pin (For Above Stud)	H	P36H195			Steel	#5 x 2" long		2
56	Cap Screw To Casing)	H	P23T289			-248A-2	7/8"-9 x 1-3/4" Long. Knurled Socket Hd.		4
57	Pin (Ped. To Casing)	H	T-10218-84						2
58									
59	Steam Chest Assembly	B/M	603156-321				B/M		1
50	Valve and Stem Assem.	M	616899-145				5 1/2" Assem. in Above Steam Chest B/M		1
51	Valve Seat	M	636413-5				5 1/2" Assem. in Above Steam Chest		1
52	Pin (Stm. Chest To Casing)	H	T-10218-16						2
53	Nuts (Stm. Chest To Casing)	H	P11A17			Steel	3/4"-10 Hex. S.F.		10
55									
56	GOVERNOR	B/M	629381 G10				B/M		1
57									
58	Governor Weight	M	634349-7						3
59									
60	Governor Levers	B/M	625774 G13				B/M		1
61	LUBRICATOR	M	P6089				PURCHASED		2
62	ADAPTER (FOR ABOVE)	M	649760-1						2
63	PIPE NIPPLE (FOR STM. END BRG. (BA))	H	P41Y21				1/4" SCH. 80 x 3" LG.		1
64	PIPE NIPPLE (FOR EXH. END PED.)	H	P41Y11				1/4" SCH. 80 x 2" LG.		1
65	Assembly								1

CATALOG NO.	Y2295-40	Type	2 DYE	Turbine	S.O. NO.
	602764				W.O. NO.
NO. 10.	Y2295	For:-	STANDARD OIL CO. OF CALIFORNIA.		QUAN.
RECORD NO.	JY 28-0273				DATE

[illegible]

CATALOG NO.	612619-G1	PIPING DIAGRAM	S.O. NO.
I		NON-CONDENSING - WITHOUT LAGGING.	W.O. NO.
S.O. NO.		WITH OR WITHOUT BI-5 GEAR.	QUAN
RECORD NO.		"DYE"	DATE

QTY.	PART NAME	F.I.C. P.O. P.N.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	N.I.C.-P.O. F.B.M. A.M.A.	QUAN.
	BOLT	H	646571-1						4
	BEARING		617531						
4	CASE ASSEM.	M	-14				B/M		1
5	PLUNGER	M	647517-4				B/M		1
6	PIPE PLUG	H	PA0E11			STL	1/4" SOLID SQ. HD.		2
7	PIPE PLUG	H	PA0H14			L.I.	3/4" COUNTERSUNK		1
8	JAM NUT	H	PI3511			STL	5/16"-18 Hex. S.F.		1
9	SET SCREW	H	P23M77			STL	5/16"-18 x 3/4" LG. FULL DOG POINT.		1
1	MAIN BOLT	H	PI0A54			STL	5/16"-18 x 7/8" LG. HEX. HD. S.F.		6
2	FLANGE	M	635501-2						1
6	ELBOW	H	PA1A12			M.I.	1/2"-90° 150# SCREWED SHORT.		2
7	NIPPLE	H	PA1X13			-171-	1/2" SCH. 80 x 1 1/2" LG.		1
8	GASKET	H	649709-1						1
0	COOLING TUBE ASSEMBLY	M	635502-5				B/M		1
	[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]	[REDACTED]		[REDACTED]
3	BALL BEARING	M	647226-2						1
5	SPRING	H	646687-2						1
7	RETAINING RING	H	P27G38			STL	TAPER INVERTED EXTERNAL BEVELED		1
5	PIPE PLUG	H	PA0H15			L.I.	1" COUNTERSUNK		1

DAT

CATALOG NO.	613459-44	ROTOR ASSEMBLY	S.O. NO.
IE		L. H. ROT. - MAX. TRIP 4263 R.P.M.	W.O. NO.
NO.			QUAN.
RECORD NO.		2DYR	DATE

d-15

QTY	NAME OF PART	P.I.C. P.O. P.S.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.P.O. P.S.M. A.M.A.	QUAN
1	PEDESTAL ASSEM.	M	601987 -7				B/M		1
2	PIPE PLUG	H	P40E11			STL.	1/4" SOLID SQ. HD.		2
	PIPE PLUG	H	P40H14			C.I.	3/4" COUNTERSUNK		1
1	PIPE PLUG	H	P40H15			C.I.	1" COUNTERSUNK		1
1	FLANGE	M	635501 -2						1
3	GASKET	H	649709 -1						1
1	MACH. BOLT	H	P10A54			STL.	5/16"-18 X 7/8" LG. HEX HD. - S.F.		6
1	COOLING TUBE ASSEM.	M	635502 -5				B/M		1
9	PIPE PLUG	H	P40G11			STNLS S.	1/4" SOLID SQ. HD.		2

CATALOG

601987-G3

BEARING PEDESTAL
(EXHAUST END)BO
NO.LINE
NO.WO
NO.I.O.
NO.

RING OILED

QUAN.

RECORD
NO.

"DYR" & "EYR"

DATE

d-16

NAME OF PART	P.I.C. P.O. P.S.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.S.M. A.M.A.	QUAN.	V
ER	M	633811 -3				B/M		1	
OVERSPEED TRIP VALVE ASSEM.	M	633742 -10				B/M		1	
LEVER	M	629131 -7				B/M		1	
STEAM STRAINER	M	633805 -21						1	
RESETTING LEVER	M	633716 -4				B/M		1	
PACKING	H	637387 -2						1	
SPRING	H	647629 -1						1	
SPRING	H	645953 -1						1	
SPRING	H	646602 -1						1	
SPRING SEAT	H	645949 -1						1	
PIPE NIPPLE	H	P41240			-171	3/4" SCH. 80 X 8" LG.		1	
HOOD	M	624946 -3						1	
CONNECTION	H	646637 -1						1	
CONNECTION	H	646657 -1						1	
RETAINING RING	H	P27E20			STL.	TRUARC CRESCENT 5103-75		2	
BLOCK	H	646639 -2						2	
BLOCK	H	691879 -1						2	
MAINT. BOLT	H	P106305			-162A-2	3/4"-10 X 2 1/4" LG. HEX. NO. S.F.		10	
JAM NUT	H	P13512			STL.	3/8"-16 HEX-S.F.		1	
JAM NUT	H	P13514			STL.	1/2"-13 HEX-S.F.		1	
CAP SCREW	H	P23T260			-248A-2	3/4"-10 X 2" LONG KNURLED SOCKET HEAD.		2	
CAP SCREW	H	P23T262			-248A-2	3/4"-10 X 2 1/2" LONG KNURLED SOCKET HEAD.		6	
STRAIGHT PIN	H	M36L386			-33	1/2" DIA. X 2 1/8" LONG.		1	
BUSHING	H	692071 -1						1	

CATALOG NO.	13156-G-7	STEAM CHEST PARTS.	S.O. NO.
		STD. GOV. WITH OR WITHOUT HAND SPEED CHANGER OR "PG" GOV.	W.O. NO.
		6"-250"	QUAN.
CORD NO.		"BYR"- "BYR"- "CYR"- "DYR"- "BYRH"- "EYR"- 1/2"E	DATE

QTY.	NAME OF PART	P.I.C. P.O. P.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	CLASS. K.E.M. A.M.A.	QUAN.
2	WASHER	H	646652 -1						2
3	SELF TAPPING SCREW	H	P22E42			STL	1/4"-20 X 1/2" LONG HEX HEAD.		1
4	FOLLOWER	H	646107 -1						1
5	SET SCREW	H	P23A54			STL	1/4"-20 X 1/2" LONG CUP POINT		1
6	BUSHING	H	645950 -1						1
7	SELF TAPPING SCREW	H	P22D37			STL	#10-24 X 5/16" LONG TYPE "F" STYLE "R" PARKER ROYAL		5
8	STREET ELBOW	H	P41L14			M.I.	3/4" -90° 150# SCREWED		1
9	SPRING SEAT	H	646660 -1						1
1	STRAIGHT PIN	H	T10218 -16			-39	1/2" DIA. X 3/4" LONG		1
3	COVER	M	628898 -3					3/M	1

TALOS
NO.

603/56-4-7

STEAM CHEST PARTS

S.O.
NO.

STD. GOV. WITH OR WITHOUT HAND SPEED CHANGER OR "TG" GOV.

W.O.
NO.

6"-250"

QUAN.

ORD
NO.

"RPR" "RPR" "CIR" "DIR" "DIRH" "EIR" E.E.

DATE

BY RRU 8-22-58

C-1

ITEM NO.	NAME OF PART	P.I.C. P.O. P.S.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	P.I.C. P.O. P.S.M.	QUAN.
	SET SCREW	H	P23K136			STL	1/2-13 x 5/8" LG. NAILDR. P.		1
8.	GASKET	H	647866						1
9.	NOOD	M	646558						1
12.	LUBRICATOR	H	P70414				6mm STYLE WD. #2207 WICK FEED		1
7	GOV. SPINDLE & PARTS ASSEM.	B/M	629381					3/M	1
8.	BEARING CASE	M	646576						1
2.	STOP SCREW	H	650614						3
1.	GOV. CASE	M	646694						1
2.	CAP SCREW	H	P23T42			-162A-2	#10-24 x 1/2" LG. KNURLED SOC. NO.		3
3.	LOCKWASHER	H	P25Q15			STL	#10 SHAKEPROOF		3
4.	WEIGHT STOP	H	692444						3
			-2						

CATALOG NO.

1.29381-6 10

GOVERNOR

S.O. NO.

W.O. NO.

QUAN.

DATE

LARGE STD. GOV. WITH NOLLOW BRAZED RIGID

DESIGN SPINDLE & OIL LUBRICATED BEARING

STD. 1200" SPRING. 1/2" TURBINE

C-20

ITEM NO.	NAME OF PART	P.I.C. P.O. P.S.N.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C. P.O. P.S.N. A.M.A.	QUAN.
	GOV. SPINDLE ASSEMBLY	3/M	629381-25					3/M	1
7	CONNECTION	M	646572-1						1
3	JAN NUT	H	P13514						1
9	SPRING SEAT	M	646693-3						1
2	ADJUSTING NUT	M	646575-1						1
1	SEAL	H	646704-1						1
5	SPRING	M	646587-1						1
7	ASSEMBLY		629381-27				ASSEMBLY OF ABOVE ITEMS		X

CATALOG NO.	629381-27	GOVERNOR SPINDLE & PART ASSEMBLY	SG. NO.
		SMALL STD. GOV. WITH HOLLOW BRAZED RIGID DESIGN	WG. NO.
		SPINDLE & LUBRICATED BEARING, SPEC. 1200 * SPRING	QUAN.
RECORD NO.		Y.R.	DATE

c-21

QTY	NAME OF PART	P.I.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	P.I.C. P.O. P.B.M. A.M.A.	QUAN
	SPINDLE	M	629379				B/M		1
1	BALL BEARING	M	692358						1
3	WASHER	H	691832						1
1	NUT	H	P12J10			5	1/4-28 HEX S.F.		1
	LOCKWASHER	H	P25517				1/4 SHARP ROOF		1
5	ASSEMBLY		629381				ASSEMBLY OF ABOVE ITEMS		X

CATALOG NO. 629381-25

GOVERNOR SPINDLE ASSEM.

SID. LARGE GOV. WITH HOLLOW BORED RIGID

DESIGN SPINDLE & BALL BRG. ASSEMBLY

"12" TURBINE

SO.
NO.WO.
NO.

QUAN.

DATE

C-22

T.O.
NO.RECORD
NO.

PLS 1-7-59

NAME OF PART	P.C. P.O. P.S.N.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.C.P.O. P.S.N. A.M.A.	QUAN.
BRACKET	M	634477 -1						1
BRACKET	M	647808 -1						1
PIN	H	646643 -2						1
RETAINING RING	H	P27E16						4
TAPER PIN	H	P36H162			STL.	#4 x 1 1/4" LG.		2
MAIN BOLT	H	P10A197			STL.	1/2" - 13 x 1 1/2" LG. HEX. NO. S.F.		2
CAP SCREW	H	P23T203			.162A2	1/2" - 13 x 2 3/4" LG. KNURLED Sec. NO.		1
LOCKWASHER	H	P25A44			STL.	1/2" (172 x 125) RANTLINK		2
PIN	H	646771 -1						1
PIN	H	646643 -1						1
LEVER	M	633789 -5						1
LOTTER PIN	H	P36A54			STL.	1/8" x 3/4" LG.		2
HAND WHEEL	M	ES-2008 -2						1
9mm NUT	H	P13514			STL.	1/2" - 13 HEX. S.F.		1
BRACKET	H	646582 -1						1
WASHER	H	T-60325 -1						1
TAPER DOWEL	H	M36K224			STL.	#6 x 1 3/4" LG.		1
CAP SCREW	H	P23T196			.162A2	1/2" - 13 x 1" LG. KNURLED Sec. NO.		2
STEM	H	646554 -5						1
SPRING	H	647629 -1						1

CATALOG
NO. 125774-GR-13

GOVERNOR LEVER ASSEMBLY

S.O.
NO.

VARIABLE RATING 2" - 3" - 4" - 6" STM LN.

W.O.
NO.

STD. GOV. WITH HAND SPEED CHANGER

QUAN.

"CYR" "DYR" "EYR" & "BYRH"

DATE

CORD
NO.

REP. BY RRU DATE 9-28-59

R. 19

DETAIL BILL OF MATERIAL

1 PAGES

PAGE NO. 1

c-23

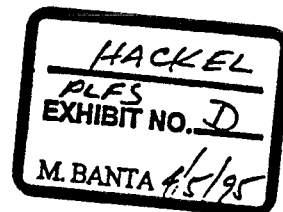
S.O.

C-2244

STANDARD OIL Co. OF
Purchaser
CALIF.

CALIFORNIA

State



1

DESIGN
INFO.

D.D-1

ELLIOTT COMPANY
A DIVISION OF CARRIER CORPORATION

NORMAL MAINTENANCE PARTS LIST

for

Type 22YR PG. TurbineG.O. No. SF65-001A Serial No. C-2244 S.O. No. C-2244 Instruction Book 100For STANDARD OIL CO. OF CALIF. PO. # 514290 Item

Item	Part Number	Catalog Number	Req'd Per Unit	Item	Part Number	Catalog Number	Req'd Per Unit
Bearing Liner (Upper Half)	523	625781-5	2	Follower	574	646107-1	1
Bearing Liner (Lower Half)	522	625781-6	2	Pin	677		1
Oil Ring	624	640927-1	4	Connection	654	646637-8	1
Carbon Ring Assy. (Standard)	512	634159-7	8	Pin	675		1
Carbon Ring Assy. (Huhn)	512			Retaining Ring	673		4
Valve & Stem Assy. (Governor)	651-2-3	638149-28	1	Pin	672		1
Valve	651		1	Shoulder Bolt	805		1
Stem	652		1	Block	808		2
Pin	653		1	Connection	807		1
Pin	579		1	Weight Assembly	665		3
Sleeve	580		1	Spring (Governor)	667		1
Lockwasher	581		1	Ball Bearing	662		1
Nut	582		1	Bearing Case	663		1
Lockwasher	584		1	Spindle Assembly	700		1
Valve Seat	567	629495-12	1	Seal	681		1
Trip Pin	938	640374-1	1	Spring Seat	666		1
Adjusting Nut	937	647793-1	1	Connection	655		1
Trip Spring	940	641554-1	1	Adjusting Nut	668		1
"U" Lock Staple	942	650093-1	2	Diaphragm	1476		1
Ball Bearing (Rotor Locating)	623	647226-6	1	Spring	1484		1
Retaining Ring	622	627638	1	Adjusting Screw	1485		1
Spring	540	646687-2	1	Ball Bearing	1487		1
Plunger Assembly	936	647517-4	1	Valve Stem	1491		1
Knife Edge	934	650293-1	1	Pin	745		1
Knife Edge	963	692000-1	1	Block	746		1
Roll Pin	964	691999-1	1	Bellows Assembly	1363		1
Valve Stem Packing	573	637387-2	1	Rod End	1371		1
Valve & Stem Assy. (Double Seated)	916	638268-8	1	Ball Bearing	1379		2
Valve & Stem Assy. (Single Seated)	930		1	Bearing (Heim)	1382		1
Spring	922	645953-1	1	Oil Pump			
Spring (Resetting)	928	647629-1	1	Oil Pump Coupling			
				Oil Pump & Coupling		647358-1	1
				Pin	1038		1
				Heim Bearing	1068	692784-1	6
				Pin	1069	692818-1	3
				Pin	1066	646771-4	1
				JAM NUT	1082	PI4J19	1
				SPRING	1081	637982-3	1

- Used on Units having Standard Governor, "F" Governor, "O" Governor, "W" Governor, or "PG" Governor.
- Used on Units having Standard Governor, "F" Governor or "P" Governor.
- Used on Units having "O" Governor or "W" Governor, or "F" Governor - Except Variable Ratio Linkage
- Used on Units having "O" Governor or "W" Governor.
- Used on Units having "P" Governor.
- Used on Units having "POC" Governor.
- Used on Units having "O" or "POC" Governors or "W" Governors.
- Used on Units having "PG" Governor.
- Used on Units having Standard Governor, "F" Governor, "O" Governor or "W" Governor.
- Used on Units having "F" Governor with Variable Ratio Linkage

TURBO SEAL - X414-105
FEL PRO C-5 - X415-115
PLASTIC GASKET - X416-123
PLASTIC GASKET - X416-133
TITE SEAL - X467-110

SINGLE VALVE TURBINE APPARATUS SPECIFICATION

O. NO. JI4K90		PURCHASER Standard Oil Co., of Calif.		USER same Richmond Refinery	
P. J. DATE 2-12-65		ADDRESS 225 Bush Street San Francisco, California		ADDRESS Richmond, California	
GEN. ORDER NUMBER SF65-0014					
TURBINE ROTATION FACING GOVERNOR	H.P. 202	TYPE TURBINE 2DYE	TURB. RPM 1800	STEAM RATE 66.2	EXHAUST FACING GOV. ☒ L.H. ☐ R.H. ☐ UP ☐ DOWN
	GEAR S.F.	TYPE GEAR	GEAR RPM	MINIMUM GEAR RPM	GEAR SHAFT-OFFSET FACING PINION ☐ L.H. ☐ R.H.
XXXXXX	DESIGN STEAM CONDITIONS 40	PSIG D&S	FTT 0	PSIG XXXXXX	DRIVEN MACHINE EM 125KW Gen
COUNTER- CLOCKWISE ☒	ELLIOTT CLASS I	SUITABLE 250	PSIG INLET 600	FTT 60	PSIG EXHAUST
YES NO	STD SPEC	NUMBER HAND VALVES ☒ NONE ☐ ONE ☐ TWO		HAND VALVE SETTINGS	
		SPEED RANGE 1890 RPM TO 1530 RPM		APPROX. RATE	
		PUMP PRESSURE ☐ DIRECT ☐ DELAYED ☐ IN ☐ SEPARATE		PSIG FIT PSIG/IN. HG. ABS	
☒		REGULATOR MAX. PSIG PSIG DIFF.		HP RPM APPROX. RATE	
☒		SPEED CHANGER ☐ AIR ☐ ELECTRIC TO PSIG SPEED RANGE INCREASE WITH AIR PRESS.		PSIG FIT PSIG/IN. HG. ABS	
☒		INSULATING JACKETING PAINTED STAINLESS STEEL		PURCHASER'S INSPECTION ☐ NONE ☐ SURF ☐ NO LOAD ☐ FULL LOAD ☐ WITNESS ☐ WITNESS	
		STEAM STRAINER ☒		PAINT REQTS. ☒ STD. ☐ SPECIAL	
☒		OIL COOLER ☒		SHIPPING PREP ☒ STD. ☐ EXPORT ☐ EXPORT BOX	
		WATER TEMP. 85 of ☒ FRESH ☐ SALT ☐ BRACKISH		UNIT PRICE 13,506 CONTRACT PRICE 13,506	
☒		BASEPLATE ☒ PLAIN ☐ DRIP RIM ☒ FABRICATED ☐ FLAT STEEL		TYPE PLANT Ref. NET WEIGHT 2300	
		Coupling Between Turbine & Gen. ☒		DRAWINGS	
☒		Mount Purchaser Half Coupling		PRINTS: QUAN. 5 TRANSPARENCY: QUAN. 1	
		REMOTE TRIP ☐ HYDRAULIC ☐ PNEUMATIC PSIG TRIP PRESS		☐ APPROVAL ☒ RECORD ☒ JEANNETTE ☐ DISTRICT	
☒		☐ SOLENOID ☐ CL. I. GP. D. ☐ DE-ENERGIZED TRIPPING		QUANT. INSTR. BOOKS 14 BY ☐ DIST. ☒ JNTE.	
☒		CONDENSING GLAND SEALING ☐ PIPING ONLY ☐ COMPLETE GAUGES, VALVES ETC.		FIELD WORK ☒ NONE ☐ SUPT. ONLY DAYS	
☒		FLANGE STUDS ☐ INLET ☐ EXHAUST		ENGR/CONTRACTOR none	
☒		CONSTANT LEVEL OILERS		SALESMAN ABS #466	
PENALTY CONTRACT ☐ YES ☒ NO		PENALTY DATE		PRODUCT ENG. CHC 23F006	

SPECIAL INSTRUCTIONS

Mark: P.O.# JI4K90, Item T-706

Woodward PG governor, NEMA "D"

Bracket-type coupling guard for coupling between turbine & generator.

Composite drawings of turbine and generator for record purposes; mounting of turbine and generator on common fabricated steel base furnished by Elliott Company.

* Witness commercial no load test of turbine and then no load test of turbine and generator coupled for alignment.

Turbine to be capable of 227 HP, 1800 rpm with 45 psig - D&S - 0 psig

Furnish 1/4" IPS connections in each bearing cap for all makeup steam.

DATE REGISTERED 2-15-65	REG. CONTRACT SERVICES BY CT 2-17-65	REQUESTED SHIPPING DATE June 1965	SCHEDULED SHIPPING DATE (WK. 31) 6-4-65	SHOP ORDER/SERIAL NO. C-2244
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* NOT TO BE COMPLETED IN FIELD

FEB 17 1965

K. B.

FEB 26 1965

ORIGINAL

ENGINEERING DEPARTMENT

SINGLE STAGE TURBINE AND/OR GEAR DESCRIPTIVE SPECIFICATIONS

DATE 23 FEB 65	GENERAL ORDER SF65-0014	SHOP ORDER C 2244
INLET CONN. SIZE 6 GOV. VALVE SIZE 5 1/2" DS EXHAUST CONN. L.H. END TURB. ROT. L.H. END (FROM GOV. END) ROTOR FOR 2500 R.P.M. MAX. TRIP TYPE GOV. PG SPEED CHANGER HAND (HAND) JAMES UNDER COVER INCL. AND WORM WHEEL STD. STYED. BASE PLATE ALUM. FABRICATED BASE PLATE UNDER TURB. & GEN COUPLING END FAST #3B GOVERNOR END GEAR OIL RES. END (FROM GOVERNOR) GEAR OIL END	GEAR NAME PLATE DATA GEAR SERIAL NO. RATING SIZE SERVICE FACTOR H.S. L.S. INSTR. BOOK NO. 200 SPECIAL	TURBINE NAME PLATE DATA TURBINE SERIAL NO. C 2244 TYPE 20YR PG HP/KW 202 R.P.M. 1800 INLET 40 PSIG TEMP. 287 DEG. F. EXH. 0 PSIG TRIP SETTING 2070 R.P.M. CLASS TURB. I INSTR. BOOK NO. 100 SPECK

OIL SYSTEM

TURB. BRGS. ~~END~~ F.F. PIPING MAT'L. **THIN WALL STEEL** OIL RESERVOIR **15 GAL**
TUBING

OIL PUMP SIZE **1X1 IMO** ~~DRIVEN FROM TURBINE~~ **DRIVEN FROM Turbine**

~~RECEIVED FROM~~ OIL COOLER **RV-26** OIL FILTER **Cuno G**

PAINTING REQUIREMENTS: STD.
 SHIPPING PREPARATION: STD., CLASS A, SP-100, GR. 2, SLUSHING SP-301

SPECIAL CONSTRUCTION:

1/8" orifice in turb brgs
 Bracket type coupling guard for Fast #3B
 1/32" hole in pump shaft for coupling lubrication
 Gov. worm wheel ratio - 2.222 to 1

△ BASE PLATE TO BE DRIP RIM, FABRICATED, WITH DRAIN HOLE UNDER
 TURBINE AND GENERATOR

△ VALVE STEM ASSY - 638149-28
 VALVE SEAT - 629495-12

△ FURNISH 1/4" IPS OIL MAKE UP CONNECTIONS SIMILAR TO S.O. B2491
 B2511

TURBINE NAME PLATE DATA
(MAX. DESIGN CONDITIONS)

INLET **250** PSIG
 TEMP. **600** DEG. F.
 EXH. **60** PSIG
 FIRST CRITICAL **8560** R.P.M.

OUTLINE

DRIVEN MACHINE (FURNISHED ~~NOT FURNISHED~~)**EM 125 KW Gen**

AUXILIARY APPARATUS:
 WOODWARD GOVERNOR - 403686
 GENERATOR - 403685
 COUPLING - 403684

REVISIONS

BY	DATE
△ CMC	26 FEB 65
△ CMC	3 MAR 65
△ RLS	4/9/65

APR 12 1965

10-5

3

B/M's

QTY	NAME OF PART	P.L.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.P.O. P.B.M. A.M.A.	QUAN
1	2DYPG TURBINE	B/M	C2244	- 40				B/M	1
2	NAME PLATE (TURBINE)	H	P6200A394			STNLS. STL.	PURCHASED STAMP AS FOLLOWS:		1
3			TURBINE NO. C2244				TYPE 2DYPG		
4			RATED CONDITIONS						
5			HP 202			MAX SPEED 2500 R.P.M.	DESIGN CONDITIONS		
6			SPEED 1800 R.P.M.						
7			TRIP SETTING 2070 R.P.M.						
8			INLET PRESS. 40 PSIG			INLET PRESS. 250 PSIG			
9			INLET TEMP. 287 F			INLET TEMP. 600 F			
10			EXH. PRESS. 0 PSIG			EXH. PRESS. 60 PSIG			
11			EXH. PRESS. — IN HG. ABS			FIRST CRITICAL 8560 R.P.M.			
12			INSTRUCTION BOOK NO. 100						
13									
14	SCREWS (FOR ABOVE)	H/S	P12223			STNLS. STL.	46-32 X 3/8 26		4
15	WASHERS (FOR ABOVE)	B/M	619257-GR50					B/M	1
16	COUPLING (H/S)	REQ. NO. 403684					PURCHASED - FAST MODEL B SIZE A3		1
17	KEY (FOR DRIVING HALF COUPLING)		634916-170			55	12 X 3/4 X 3 5/8 26	M	1
18	COUPLING GUARD	B/M	635632-4				BRACKET TYPE	B/M	1
19	WASHERS (FOR ABOVE)	H	P25F23			STNLS. STL.	5/8" STD.		2
20	OIL COOLER	MS	P2275A020				PURCHASED GROSS R.V. 26		1
21	OIL FILTER	MS	P3516C010				PURCHASED CUNA TYPE G		1
22	OIL TANK	B/M	670665-GR1					B/M	1
23	OIL PIPING	B/M	619208-GR2					B/M	1
24	GENERATOR	REQ. NO. 403685	(TO BE MOUNTED ON BASE PLATE)				PURCHASED - BENAC II INCLUDES SEPARATE FLOOR MOUNTED EM GENERATOR PANEL		1
25	ASSEMBLY								1
26	TEST	(NO LOAD WITNESS OF TURB COUPLED FOR ALIGNMENT)					AS PER SP-30		1
27	INSPECTION								1
28	PAINTING						AS PER PS-402		1
29	SLUSHING AND SHIPPING PREP						STD. CLASS A SP-109 GR. 2 SLUSHING		1
30							SP-501		1

CATALOG NO.	C2244	ONE TYPE 2DYPG TURBINE # C2244	ASSEMBLY BILL OF MATERIAL
NAME			
FOR	C2244	FOR STANDARD OIL CO. OF CALIF.	
CORD NO.	5865-0019		

QTY.	NAME OF PART	P.I.C. P.O. P.S.N.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C. P.O. P.S.N. A.M.A.	QTY.
	Casing Assem.	STD B/M	601455 -38				B.M.		1
2	Packing Case Assem.	MS	625384 -4				See Note B.M.		2
4	Note: See Piping Diagram Dwg. For Parts To Be Assembled On Pkg. Cases Before Bolting Pkg. Cases to Casing								
5	Cap Screw (Pkg. Cases to Casing)	HS	P23T226			162A-2	5/8"-11 x 1" long Knurled Socket Hd.		4
6	Cap Screw (Pkg. Cases to Casing)	HS	P23T227			162A-2	5/8"-11 x 1-1/4" long Knurled Socket Hd.		12
7	Piping Diagram (Leakage)	STD B/M	612619 G1				B.M.		1
8									
9	Sensor Valve	MS	P66J12				3/4" Set at 55 PSI Purchased		1
10									
1	Plug (For Hand Valve Opening)	MS	646559 -1						2
2	Gasket (For Above)	HS	646126 -7				Purchased		2
3	Bearing Liner (Upper Half)	MS	625781 -5				Purchased		2
	Bearing Liner (Lower Half)	MS	625781 -6				Purchased		2
5	SALE BEARINGS (THRU)	MS	647226 -6				PURCHASED		1
6	Bearing Case (Steam End)	STD B/M	618698 G11				B/M		1
7	LATCH ASSEM	MS	624944 -11				B/M		1
8	End Support	M	646560 -6						1
9	Mach. Bolt (Brg. Case to Support)	H	P10C263			162A-2	5/8"-11 x 2" long Hex. Hd. S. F.		2
10	Lockwasher (For Above)	H	P25A49			Steel	5/8" (.203" x .156) "Kantlink"		2
1	Nuts (For Above)	HS	P11A16			Steel	5/8"-11 Hex. S.F.		2
2	Spacer (Brg. Case to Casing)	HS	649581 -2			Steel	Make From Purchased Washer 649581-4		4
3	Cap Screw (Brg. Case to Casing)	H	P23T289			162A-2	7/8"-9 x 1-3/4" Long Knurled Socket Hd.		4
4	Pin (Brg. Case To Casing)	H	P36L228						2
5	SYM. END BRG. CASE REMACHINING		638707			DRILL & TAP SYM. END BRG. CASE AS SHOWN ON DWG 2-638707			1

CATALOG NO. C2244-40	Type 2 DYR PG Turbine	UNIT BILL OF MATERIAL
IO. C2244	For: STANDARD OIL CO. OF CALIF.	
RECORD NO. 5565-0014		

[illegible]

TALOG
NO. C7289.40

Type **2 Dyr PG** Turbine

UNIT
BILL OF
MATERIAL

C2248

For:- STANDARD OIL CO. OF CALIF.

CORD
NO. 5F65-0019

REP. BY E.N. DATE 3-2-65

MAR - 9 1965

3 PAGES

PAGE NO. 2

QTY.	NAME OF PART	P.L.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.L.C. P.O. P.B.M. A.M.A.	QUAN.
1	Oil Rings	H S	640927-1						4
	Bearing Ped. Assem. (Exh. End)	STD B M	601987-4				B/M		1
3	Spacer (Ped. To Casing)	H S	649581-2			Steel	Make From Purchased Washer 649581-4		4
4	Stud (Ped. To Casing)	H	646006-5						2
5	Taper Pin (For Above Stud)	H S	P36H195			Steel	5 x 2 1/2 long		2
6	Cap Screw To Casing)	H	P23T289			162A-2	7/8" x 1-3/4" Long. Knurled Socket Hd.		4
7	Pin (Ped. To Casing)	H	P36L228						2
8	BRG. PED. (EXH. END) RINACHMINE		638708			DRILL & TAP BRG. PED. AS SHOWN ON DWG. 2-638708			1
9	Steam Chest Assembly	STD B M	603156-321				B/M		1
0	Valve and Stem Assem.	F	638149-28				5/16" Assem. in Above Steam Chest B/M		1
1	Valve Seal	MS	629495-12				5/16" Assem. in Above Steam Chest		1
2	Pin (Stm. Chest To Casing)	H	P36L226						2
3	Nuts (Stm. Chest To Casing)	H S	P11A17			Steel	3/4"-10 Hex. S.F.		10
4	GOVERNOR DRIVE ASSEMBLY	B/M	618477-99				B/M		1
	DOWNWARD PG. GOVERNOR	RED. NO. 4-3686					PURCHASED		1
5	GOVERNOR LINKAGE ASSEM.	STD B/M	618074-24				B/M		1
7									
8									
9									
0		B/M							
1	OIL PUMP AND COUPLING	MS	647358-1				PURCHASED 1" x 1" IMC (R.H.)		1
2	REMOVING OIL PUMP COUPLING						NOTE: COUPLING TO BE REMOVED FROM PUMP AND TO BE PLACED IN STOCK AS CAT. # 647360-2		
3	DRILLING (PUMP SHAFT END)						DRILL 1/32" DIA. HOLE IN PUMP ON END OF ABOVE PUMP SHAFT.		1
4	COUPLING	M	647360-5				PURCHASED - FOR USE BETWEEN IMC PUMP AND GOVERNOR DRIVE ASSEM.		1
5	Assembly								1

TALOG NO.

C 2244

Type 2 DYRPG Turbine

JTLINE NO.

UNIT
BILL OF
MATERIAL

C 2244

For: STANDARD OIL CO. OF CALIF.

CORD NO.

SF 65-0014

REP. BY E.N. DATE 3-2-65

MAR - 9 1965

3 PAGES

PAGE NO. 3

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

PART NO.		PART NAME		REFERENCE OR DRAWING NO.		ITEM NO.	F.I.C.	APPARATUS	DRAWING NO.	
619257-GR50		BASE PLATE						D/R TURBINE		
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	F.I.C.	U/M	DESCRIPTION	MAKE FROM	R.I.C.	QUAN.
1	BASE PLATE ASSEM.	619257-10	Blm	10						
2	MACH. BOLT	P10A255	5/8"-11 x 1 1/4"	11	H		STL			
4	MACH. BOLT	P10A258	5/8"-11 x 1 3/4"	12	H		STL			
6	MACH. BOLT	P10A333	7/8"-9 x 1 3/4"	13	H		STL			
4	TAPER DOWEL	M36K288	#8 x 2 3/4"	14	HS		STL			
4	SHIM	P835D051		17	H		-46A			
4	SHIM	P835D052		18	H		-46A			
2	SHIM	P835D053		19	H		-46A			
1	SHIM	P835D054		20	H		-46A			
8	SHIM	P835D021		21	H		-46A			
8	SHIM	P835D022		22	H		-46A			
4	SHIM	P835D023		23	H		-46A			
2	SHIM	P835D024		24	H		-46A			
ORDER NO.		PART NO.		DISTRIBUTION		Prepared By		Date		
619257-GR50		619257-GR50				61		3-39-65		
QUANTITY										

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MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

PART NO.		PART NAME		PART NO.		REFERENCE OR DRAWING NO.		ITEM NO.		U/M		F.I.C.		APPARATUS		DRAWING NO.	
QUAN.		PART NAME		PART NO.		REFERENCE OR DRAWING NO.		ITEM NO.		U/M		F.I.C.		APPARATUS		DRAWING NO.	
1		SHEET		670665-1				1						TURBINE			
2		SHEET		670665-2				2									
1		PLATE		670665-3				3									
1		AIR VENT ASSEMBLY		692708-6				4		BM		H					
1		BAR		670665-5				5									
1		SUPPORT		693115-1				7									
1		HALF COUPLING		P43F16				8		1 1/2-3000*		H					
1		PIPE		670665-10				10		PLAIN ENDS							
1		PIPE		670665-11				11		THD. ONE END							
1		HALF NIPPLE		P41T83				12		3/4" S. 80 x 1 1/2		H					
1		HALF COUPLING		P42F14				14		1"-3000*		H					
1		COUPLING		P42F13				15		1"-3000*		H					
1		ASSEMBLY		670665-20				20		ASSEMBLY OF ABOVE ITEMS							
ORDER NO.		PART NO.		670665-20													
QUANTITY																	
DATE REQUIRED																	

Prepared By: J.B. SHAUSTER (WAS)
Date: 7-20-64
A.S.
7-21-64

1965

MANUFACTURING

JULY OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

Senior Consultant

A Division

PART NO.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	P.I.C.	APPARATUS	DRAWING NO.
619208-622	Oil Pump	619208-2	Cut 1 Bend	2			1085mg	
1	Tubing	619208-3	70 SWT	3				
1	Tubing	619208-4		4				
1	Tubing	619208-5		5				
1	Check Valve	PL60B1A	1-125"	7		HS		
1	Check Valve	PL5D11	1/2-125"	8		MS		
1	Check Valve	PL2A11	1/2-125"	9		H		
1	Half Sizing Oil Press Gauge	PL1T40	1/2 80x1/2 3/4 D.M.C.	10		H		
1		P52A19	1/2 80x1/2 3/4 D.M.C.	11		H		
3	Tube Coupling	P07A35	1" M	13		H		
1	Tube Coupling	P07B34	1" F	14		H		
2	Tube Coupling	P07A33	3/4 M	15		H		
1	Tube Coupling	P07A31	1/2 F	16		H		
1	Tube Coupling	P07A32	3/4 M	17		H		
2	Tube Fitting	P07G24	1" 30°	19		H		
1	Tube Elbow	P07F18	1-45°	20		H		
1	Tube Elbow	P07G10	3/4 1/2 90°	21		HS		
ORDER NO.	PART NO.	619208-622	DISTRIBUTION					
QUANTITY								
DATE REQUIRED								

A Div. 314
404
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MANUFACTURER BILL OF MATERIAL
APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - (DETAIL) PARTIAL - STANDARD

PART NO. 613459-44		PART NAME ROTOR ASSEMBLY (L.H. ROT)		F.I.C.		APPARATUS "DYR"		DRAWING NO. 185	
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	F.I.C.	DESCRIPTION	MAKE FROM	QUAN.
1	SHAFT	624972-1		1		MS			
1	DISK	624988-9	B/M	5		M			
1	DISK	624989-9	B/M	7		M			
6	SET SCREW	P23 A30	#10-24X1/2 LG CUP PT.	11		HS	STEEL		
3	SLEEVE	642966-1		13		MS			
2	SHRINK RING	636051-1		40		MS			
1	SHRINK RING	636051-2		41		MS			
2	KEY	633074-37		42		HS			
X	ASSEMBLY	633459-44	Assm of Above Items						
ORDER NO.		PART NO. 613459-44		DISTRIBUTION		Prepared By MC		Date 6-5-68	
QUANTITY									
DATE REQUIRED									

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT DETAIL - PARTIAL - STANDARD

PART NO.		PART NAME		REFERENCE OR DRAWING NO.		ITEM NO.		F.I.C.	APPARATUS	DRAWING NO.	
618477-68.9		GOVERNOR DRIVE ASSEM.							YR.	TURBINE	
QUAN.	PART NO.	PART NAME	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	F.I.C.	DESCRIPTION	MAKE FROM	R.I.C.	QUAN.	
1	618135-1	HOUSING		1		M					
1	636733-2	WORM WHEEL		4			2 1/4" DIA		M	2.875	R
1	636732-3	WORM WHEEL		8		M					
1	641388-120	KEY		12		H					
1	P28A14	LOCK WASHER		13		H					
1	P28B14	LOCK NUT		14		H.S.					
1	641723-51	OIL SLINGER		15		M					
1	650674-1	DIRECTION ARROW		16		H					
2	P22B23	DRIVE SCREW		17		H					
1	648803-1	WASHER		18		M					
1	648803-2	WASHER		19		M					
1	P36A57	COTTER PIN		20		H					
1	648561-1	OIL FEEDER		21		H					
1	638086-1	TRIP BODY		22		M					
ORDER NO.		PART NO.		DISTRIBUTION		Prepared By		Date			
618477-68.9		618477-68.9				C.S.M.		2-2-64			
QUANTITY											
DATE REQUIRED											

MANUFACTURER BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - PARTIAL - STANDARD

PART NO.		PART NAME		REFERENCE OR ITEM NO.		F.I.C.		APPARATUS		DRAWING NO.	
618477-GR-9		GOVERNOR DRIVE ASSEMBLY				F.I.C.		YR		TURBINE	
QUAN.	PART NAME	PART NO.	REFERENCE OR ITEM NO.	U/	F.I.C.	DESCRIPTION	MAKE FROM	R.I.C.	QUAN.		
1	SET SCREW	P23K136	27		HS						
1	CAP SCREW	P23T136	28		H						
1	SHIM	P835C510	29		H						
1	SHIM	P835C511	30		H						
1	SHIM	P835C512	31		H						
1	SHIM	P835C513	32		H						
4	MACH. BOLT	P10A176	33		H						
2	TAPER DOWN	M36K224	34		HS						
1	KEY	P37A14	41		H						
1	BRACKET	638089-5	42		F						
8	CAP SCREW	P23T80	44		H						
8	LOCK WASHER	P25A31	45		H						
4	LOCK WASHER	P25A39	46		H						
4	STUD	P50A13	47		H						
4	NUT	P11A12	55		HS						
ORDER NO.		PART NO.		DISTRIBUTION		PREPARED BY		DATE		SHEET	
618477-GR-9		618477-GR-9				CSM		1-1-64		2 of 2	
QUANTITY											
DATE REQUIRED											

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O.R.C. &
PRINTS

PURCHASE REQUISITION

No. **403686**

403686

3. PURCHASING DEPT.

SUGGESTED VENDORS:

DATE **February 25, 1965**

REQUISITIONED BY Application Engineering	S. O. NO. C-2244	CHARGE ACCOUNT NO. 10.220
APPROVED BY C. McCarthy	TERMS	DELIVER TO Stores
ROUTING (PUR. DEPT. USE ONLY)	G. O. NO. SP65-0014	DATE MATERIAL REQUIRED (FISCAL WEEK)

ITEM NO.	QUANTITY	DESCRIPTION	PART OR PATTERN NO.	PRICE - (PUR. DEPT. USE ONLY)
1	1	Woodward type PG governor with hand speed changer. Gov. operating speed range 875-675 rpm. 29 ft. lb. diff. S.M. located in plant D, S.M. quadrant No. 2 S.M. for 1" Max. stroke. S.M. for push to close operation. Operating S.M. stroke .725. Furnish tie in connections for oil cooler but do not furnish cooler. Gov. drive base No. 360117. Clevis No. 011952. Dust boot. Oil level sight glass in Plan "A". General governor drive and S.M. arrangement per Elliott drawing L-3932. "		
		NO DROP AS PER KEN KRAVNIK 3-5-65		
		PRINT SENT TO REC. DEPT. 4.8.65		
		TWO		
		PLEASE FURNISH ONE CERTIFIED TRANSPARENT OR CERTIFIED PRINTS FOR RECORD - ORIGINAL BY.....9 MAR 65..... PLEASE FURNISH 19 COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS AND SPARE PARTS LISTS.		

PURCHASING DEPARTMENT USE ONLY: PRICES SHOWN ARE F.O.B.

FEB 26 1965

D-20

PURCHASE REQUISITION

No. **403685**
403685

PURCHASING DEPT.

TESTED VENDORS:

DATE **February 25, 1965**

LC 58538

REQUISITIONED BY Application Engineering	S. O. NO. C-2244	CHARGE ACCOUNT NO. 10.220
APPROVED BY C. McCarthy	TERMS	DELIVER TO Stores
ROUTING (PUR. DEPT. USE ONLY)	G. O. NO. SR65-0014	DATE MATERIAL REQUIRED (FISCAL WEEK)

ITEM NO.	QUANTITY	DESCRIPTION	PART OR PATTERN NO.	PRICE - (PUR. DEPT. USE ONLY)
1	1	non-packaged Electric Machinery manufacture Benac II, 125 KW, 150 KVA, 1800 RPM, 3 phase, 60 cycle, 480 volt, Class B insulation, 60° C rise over a 40° C ambient, capable of 25% overload for two hours or 10% overload continuous, in accordance with Standard Oil specifications E-2390, CCW Rotation.		
2	1	Separate floor-mounted EM Generator Panel, NEMA 3 construction, containing the following: 1. Voltage regulator 2. Voltmeter and Ammeter - AC 3. Frequency meter 4. Elapsed Time meter 5. Voltage adjusting rheostat 6. 400 amp, 250 amp, trip circuit breaker, Westinghouse. 7. 10 amp, 600 volt control relay 8. Isolating switch for space heater Prints are to contain no torsional analysis data. <i>720</i> PLEASE FURNISH ONE CERTIFIED TRANSPARENCY OR <i>2</i> ...CERTIFIED PRINTS FOR RECORD - APPROVAL BY..... <i>9 APR 65</i> PLEASE FURNISH <i>19</i>COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS AND SPARE PARTS LISTS.		

*RELEASE OF REC & PRINTS
FOR RECORD TAKEN CARE OF
BY R. L. STENART. 4/9/65*

*OK
RC Stenard
4/9/65*

APPROVED FOR CONSTRUCTION
ELLIOTT COMPANY A DIVISION OF CARRIER CORPORATION JEANNETTE, PA.
BY D. W. CROCKER
DATE APR 9 1965

APPROVED FOR CONSTRUCTION
ELLIOTT COMPANY A DIVISION OF CARRIER CORPORATION JEANNETTE, PA.
BY _____
DATE _____

PURCHASING DEPARTMENT USE ONLY: PRICES SHOWN ARE F.O.B.

FEB 26 1965
D-23

No. 403684
403684

SUGGESTED VENDORS:

DATE February 25, 1965

REQUISITIONED BY Application Engineering	S. O. NO. C-2244	CHARGE ACCOUNT NO. 10.220
APPROVED BY C. McCarthy	TERMS	DELIVER TO Stores
ROUTING (PUR. DEPT. USE ONLY)	G. O. NO. SF-65-0014	DATE MATERIAL REQUIRED (FISCAL WEEK)

[illegible]

PURCHASING DEPARTMENT USE ONLY: PRICES SHOWN ARE F.O.B.

FEB 26 1968

S.O.

C-2308

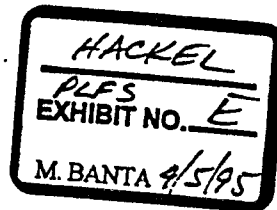
STANDARD OIL CO. OF

Purchaser

CALIF.

CALIF.

State



1

DESIGN
INFO.

ELLIOTT COMPANY
A DIVISION OF CARRIER CORPORATION

NORMAL MAINTENANCE PARTS LIST

for

Type 2C YR TurbineG.O. No. SF65-0004-D Serial No. 6-2308 S.O. No. 6-2308 Instruction Book 100For STANDARD Oil Co. Of Calif. PO. # 32-98-G-1 AT-4-G-86 Item

Item	Part Number	Catalog Number	Req'd Per Unit		Item	Part Number	Catalog Number	Req'd Per Unit	
Bearing Liner (Upper Half)	523	625781-5	2		Follower	574	646107-1	1	
Bearing Liner (Lower Half)	522	625781-6	2		Pin	677	646771-1	1	
Oil Ring	624	640927-1	4		Connection	654	646637-1	1	
Carbon Ring Assy. (Standard)	512	634159-7	8		Pin	675	646643-2	1	
Carbon Ring Assy. (Hühn)	512	—	—		Retaining Ring	673	P27E16	4	
Valve & Stem Assy. (Governor)	651-2-3	618234-111	1		Pin	672	646643-1	1	
Valve	651		1		Shoulder Bolt	805	—	1	
Stem	652		1		Block	808	—	2	
Pin	653		1		Connection	807	—	1	
Pin	579		1		Weight Assembly	665	633823-9	3	
Sleeve	580		1		Spring (Governor)	667	650379-1	1	
Lockwasher	581		1		Ball Bearing	662	692358-1	1	
Nut	582		1		Bearing Case	663	646686-1	1	
Lockwasher	584		1		Spindle Assembly	700	629379-10	1	
Valve Seat	567	628191-5	1		Seal	681	646704-1	1	
Trip Pin	938	640374-1	1		Spring Seat	666	646692-3	1	
Adjusting Nut	937	647793-1	1		Connection	655	646572-1	1	
Trip Spring	940	641554-1	1		Adjusting Nut	668	646632-1	1	
"U" Lock Staple	942	650093-1	2						
Ball Bearing (Rotor Locating)	623	647226-2	1		Diaphragm	1476	—	1	
Retaining Ring	622	P27638	1		Spring	1484	—	1	
Spring	540	646687-2	1		Adjusting Screw	1485	—	1	
Plunger Assembly	936	647517-4	1		Ball Bearing	1487	—	1	
Knife Edge	934	650293-1	1		Valve Stem	1491	—	1	
Knife Edge	963	692000-1	1		Pin	745	—	1	
Roll Pin	964	691999-1	1		Block	746	—	1	
Valve Stem Packing	573	637387-2	1		Bellows Assembly	1363	—	1	
Valve & Stem Assy. (Double Seated)	916	638268-6	1		Rod End	1371	—	1	
Valve & Stem Assy. (Single Seated)	930	—	1		Ball Bearing	1379	—	2	
Spring	922	645953-1	1		Bearing (Heim)	1382	—	1	
Spring (Resetting)	928	647629-1	1		Oil Pump	7	—	1	
					Oil Pump Coupling	7	—	1	
					Oil Pump & Coupling	7	—	1	
					Pin	1038	—	1	
					Heim Bearing	1046	—	2	
					Pin	1054	—	1	
					Pin	833	—	2	
					Pin	834	—	3	
					Link	1055	—	1	

- Used on Units having Standard Governor, "F" Governor, "O" Governor, "W" Governor, or "PG" Governor.
- Used on Units having Standard Governor, "F" Governor or "P" Governor.
- Used on Units having "O" Governor or "W" Governor, or "F" Governor — Except Variable Ratio Linkage
- Used on Units having "O" Governor or "W" Governor.
- Used on Units having "P" Governor.
- Used on Units having "POC" Governor.
- Used on Units having "O" or "POC" Governors or "W" Governors.
- Used on Units having "PG" Governor.
- Used on Units having Standard Governor, "F" Governor, "O" Governor or "W" Governor.

TURBO SEAL - X414-105
FEL PRO C-5 - X415-113
PLASTIC GASKET - X416-123
PLASTIC GASKET - X418-133
TITE SEAL - X427-110

ANGLE VALVE TURBINE APPARATUS SPECIFICATION

JI-98-G-1 P. O. NO. JI-4-G-86		PURCHASER Standard Oil Co. of Calif. Western Operations, Inc.		USER Same	
DATE 2-25-65		ADDRESS 225 Bush Street San Francisco, Calif.		ADDRESS Richmond, Calif. Attn: H. M. Evans	
GEN. ORDER NUMBER SF65-0004-D					
TURBINE ROTATION FACING GOVERNOR CW		H.P. 75 TYPE TURBINE CVR		TURB. RPM 1750 STEAM RATE 104	
GEAR S.F. 140 DESIGN STEAM CONDITIONS 140 PSIG 361 FT 50		TYPE GEAR --- PSIG INLET 600 FT 60		EXHAUST FACING GOV. ☒ L.H. ☐ R.H. ☐ UP ☐ DOWN GEAR SHAFT OFFSET FACING PINION ☐ L.H. ☐ R.H.	
CLOCKWISE COUNTER-CLOCKWISE ☒		ELLIOTT CLASS I		DRIVEN MACHINE Cent. Pump	
YES NO		NUMBER HAND VALVES ☒ NONE ☐ ONE ☐ TWO		HAND VALVE SETTINGS	
SPEED RANGE 1490 RPM TO 1840 RPM		HP RPM APPROX. RATE		PSIG/IN. HG. ABS	
PUMP PRESSURE ☐ DIRECT ☐ DELAYED ☐ AIR BUILT IN ☐ SEPARATE		MAX. PSIG PSIG DIFF.		HP RPM APPROX. RATE	
REGULATOR ☐ AIR ☐ ELECTRIC TO PSIG SPEED RANGE INCREASING AIR PRESS.		PSIG FT PSIG/IN. HG. ABS		PSIG/IN. HG. ABS	
SPEED CHANGER ☐ PAINTED ☐ STAINLESS STEEL		PURCHASER'S INSPECTION ☒ NONE ☐ SURF ☐ WITNESS ☐ WITNESS		NO LOAD FULL LOAD	
INSULATING JACKETING		PAINT REQMTS. ☒ STD. ☐ SPECIAL		SHIPPING PREP. ☒ STD. ☐ EXPORT ☐ EXPORT BOX	
STEAM STRAINER ☒		UNIT PRICE 2517 CONTRACT PRICE 2517		TYPE PLANT Refinery NET WEIGHT 2050	
OIL COOLER		OF. ☐ FRESH ☐ SALT ☐ BRACKISH		DRAWINGS	
WATER TEMP.		☐ PLAIN ☐ DRIP RIM ☐ FABRICATED ☐ FLAT STEEL		PRINTS: QUAN. 3 TRANSPARENCY: QUAN. 1	
BASEPLATE		SPECIAL: MAKE		APPROVAL ☒ RECORD ☐ JEANNETTE ☒ DISTRICT	
Coupling Between Turbine & Gear		CUSTOMER'S MATERIAL TAG # (ISSUED BY JNTE) 1308		QUANT. INSTR. BOOKS ☐ ISSUED BY ☒ DIST. ☐ JNTE.	
Mount Purchaser Half Coupling		☐ HYDRAULIC ☐ PNEUMATIC PSIG TRIP PRESS		FIELD WORK ☒ NONE ☐ SUPT. ONLY ☐ DAYS	
REMOTE TRIP		☐ SOLENOID ☐ OPEN TYPE ☐ ENERGIZED TRIPPING		ENGR/CONTRACTOR	
CONDENSING GLAND SEALING		☐ PIPING ONLY ☐ COMPLETE GAUGES, VALVES ETC.		SALESMAN BPH #315	
FLANGE STUDS		☐ INLET ☐ EXHAUST		PRODUCT ENG. ---	
CONSTANT LEVEL OILERS		Trico Optimatic			
PENALTY CONTRACT ☐ YES ☒ NO		PENALTY DATE			

SPECIAL INSTRUCTIONS

1. Furnish 1/4" NPT on bearing caps
2. Tag TP-595A, Order No. JI-4-G-86
3. Trip speed setting 2100 RPM

D.O. COPIES

SF

DATE REGISTERED	REG. CONTRACT SERVICES BY	REQUESTED SHIPPING DATE	SCHEDULED SHIPPING DATE	SHOP ORDER/SERIAL NO.
				C-2308

* NOT TO BE COMPLETED IN FIELD

MAR 22 1965

E-4

ENGINEERING DEPARTMENT

SINGLE STAGE TURBINE AND/OR GEAR DESCRIPTIVE SPECIFICATIONS

DATE 3-26-65	GENERAL ORDER SF65-0004	SHOP ORDER C-2308
INLET CONN. SIZE 3" GOV. VALVE SIZE 3"-DS EXHAUST CONN. L.H. TURB. ROT. L.H. --- (FROM GOV. END) ROTOR FOR 4760 R.P.M. MAX. TRIP TYPE GOV. STD. MECH. - SMALL SPEED CHANGER HAND (---) HAND VALVES - UPPER LOWER INSOLE AND JACKETING STD. STEEL BASEPLATE COLEPLATE COUPLING H.S. COUPLING L.S. GEAR OFFSET L.H. - R.H. (FROM GOV. END) GEAR RATIO	GEAR NAME PLATE DATA GEAR SERIAL NO. RATING SIZE SERVICE FACTOR L.S. INSTR. BOOK NO. 208 SPECIAL	TURBINE NAME PLATE DATA TURBINE SERIAL NO. C-2308 TYPE OCYR HP 75 R.P.M. 1750 INLET 140 PSIG TEMP. 361 DEG. F. EXH. 50 PSIG EXH. INSOLE TRIP SETTING 2100 R.P.M. CLASS TURB. I INSTR. BOOK NO. 100

TURB. BRGS. R.O. ---	PIPING MAT'L ---	OIL SYSTEM ---	OIL RESERVOIR ---
OIL PUMP SIZE ---	GAL/100 R.P.M. DRIVEN FROM ---		
AUX. OIL PUMP ---	OIL COOLER ---	OIL FILTER ---	

PAINTING REQUIREMENTS: STD.
 SHIPPING PREPARATION: STD. CLASS A. SP-10. GR. 1. BLUSHING SP-101
 SPECIAL CONSTRUCTION:

- FURNISH $\frac{1}{4}$ " - 18 NPT "OIL MAKE-UP" CONNECTIONS ON R.H. SIDE OF STEAM END & EXHAUST END BRG CASE CAPS (SAME AS B-2442)

TURBINE NAME PLATE DATA (MAX. DESIGN CONDITIONS)	
INLET	250 PSIG
TEMP.	600 DEG. F.
EXH.	60 PSIG
FIRST CRITICAL	8510 R.P.M.

DRIVEN MACHINE (FURNISHED - NOT FURNISHED)

PUMP

AUXILIARY APPARATUS:

1: TRICO OILERS - P.6591A012

OUTLINE 638671

REVISIONS	
BY	DATE

MAR 22 1965

E-5

3

B/M's

A Divis Carrier Corporation

PART NO. C2308		PART NAME TURBINE		TYPE 2CYR		APPARATUS TURBINE		DRAWING NO. Z-638671			
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	F.I.C.	MAKE FROM	DESCRIPTION	U/M	R.I.C.	QUAN.
1	2CYR TURBINE	C2308-A-T	B/M	1				B/M			
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9							
				10							
				11							
				12							
				13							
				14							
				15							
				16							
1	SLUSHING AND SHIPPING PREP.	STD. CLASS A GR. 2 SLUSHING	SP-109 SP-501	17							
				18							
ORDER NO. C2308		PART NO. C2308-A-T		DISTRIBUTION				Prepared By: F.A.L. Date: 3-25-65			
QUANTITY								3-29-65			
DATE REQUIRED											

20 1265

MANUFACTURING ILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

A Division

erlier Corporation

PART NO. C2308-A-7		PART NAME TURBINE		TYPE 2 CYR		F.I.C.		APPARATUS TURBINE		DRAWING NO. Z-638671	
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	F.I.C.	STL. Spec.	DESCRIPTION	MAKE FROM	R.I.C.	QUAN.
1	2 CYR TURBINE	C2308-30	B/M	1			1	B/M			
1	NAMEPLATE (TURBINE)	P6200A 30-2	STAMP AS FOLLOWS	2		H					
	TURBINE NO. C2308 RATED CONDITIONS H.P. 75 SPEED 1750 R.P.M. SPEED 4760 R.P.M. TRIP SETTING 2100 R.P.M. INLET PRESS. 140 PSIG. INLET PRESS. 250 PSIG. INLET TEMP. 361 °F. INLET TEMP 600 °F. EXH. PRESS 50 PSIG. EXH. PRESS. 60 PSIG. EXH. PRESS — IN. HG. ABS. FIRST INSTRUCTION BOOK 100 CRITICAL 8510 R.P.M.										
4	SELF TAPPING SCREW (FOR ABOVE)	P22D23	#6-32 x 3/8"	8		HS					
1	MOUNTING COUPLING HALF			9							
1	KEY (FOR ABOVE)	641388-2	1 1/4" x 5/8" x 3 1/2" LG.	10							
1	TAG (FOR SHIPMENT)			11		H	55				
				12				MARK TAG: TP-575A, ORDER NO. JI-4-G-86 AND ATTACH SECURELY TO TURBINE BEFORE SHIPMENT.			
				13							
1	ASSEMBLY			14							
1	TEST		AS PER SP-30	15							
1	INSPECTION			16							
1	PAINTING		AS PER PS-402	17							
1	SLUSHING AND SHIPPING PREP.	57A CLASS A GR. 2 SLUSHING	SP-109 SP-501	18							
ORDER NO. C2308		PART NO. C2308-A-7		DISTRIBUTION				Prepared By: E.M. Date 3-25-65			
QUANTITY								3-29-65			
DATE REQUIRED		FOR STANDARD OIL CO. OF CALIF.									

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - [UNIT] - DETAIL - PARTIAL - STANDARD

PART NO. C2308-30		PART NAME 2 CYR TURBINE		F.I.C.		APPARATUS TURBINE		DRAWING NO. 2-638671	
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/ M	F.I.C.	DESCRIPTION	MAKE FROM	QUAN.
1	CASING ASSEMBLY	601462-41	B/M	1		STD			
				2		B/m			
				3					
				4					
2	PACKING CASE ASSEMBLY	625384-4	SEE NOTE	5		MS			
	NOTE: SEE PIPING DIAGRAM DWG. FOR PARTS TO BE ASSEMBLED ON PKG. CASES BEFORE BOLTING PKG. CASES TO CASING								
4	CAP SCREW (PKG. CASES TO CASING)	P23X226	5/8"-11 x 1" KNUR. SOC. HD.	7		H	-162A-2		
12	CAP SCREW (PKG. CASES TO CASING)	P23X227	5/8"-11 x 1-1/4" KNUR. SOC. HD.	8		H	-162A-2		
1	PIPING DIAGRAM (LEAKAGE)	612622-91	B/M	9		STD			
				10		B/m			
1	SENTINEL VALVE	P66J12	3/4" SET ATSS	11		MS			
				12					
2	PLUG (FOR HAND VALVE OPENING)	646659-1		13		MS			
2	GASKET (FOR ABOVE)	646126-7		14		MS			
2	BEARING LINER (UPPER HALF)	625781-5		15		MS			
2	BEARING LINER (LOWER HALF)	625781-6		16		MS			
				17					
				18					
ORDER NO. C2308		PART NO. C2308-30		DISTRIBUTION				Prepared By E.N.	
QUANTITY								Date 3-25-65	
DATE REQUIRED								3-29-65	

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - [UNIT] - DETAIL - PARTIAL - STANDARD

MAY 29 1965

PART NO. C2308-30		PART NAME 2 CYR TURBINE		F.I.C.		APPARATUS TURBINE		DRAWING NO. Z-638671	
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/ M	F.I.C.	DESCRIPTION	MAKE FROM	QUAN.
1	BEARING CASE (STEAM END)	617531-G13	B/M	19		STD			
1	BALL BEARING (THRUST)	647226-2		20		MS			
1	LATCH ASSEMBLY	624944-11	B/M	21		MS			
1	STM. END BRG. CASE REMAINING	638707		22			DRILL & TOP BEARING CASE AS SHOWN ON DWG. Z-638707		
				23					
1	END SUPPORT	646559-6		24		M			
2	WASH BOLT (BRG. CASE TO SUPPORT)	P10C263	5/8"-11 x 2" HEX. HD. S.F.	25		H	-162A-2		
2	LOCKWASHER (FOR ABOVE)	P25A49	5/8" (203 x 156) KANTLINK	26		H	STL.		
2	NUT (FOR ABOVE)	P11A16	5/8"-11 HEX	27		HS	STL.		
				28					
4	SPACER (BRG. CASE TO CASING)	649581-2		29		HS	649581-4		
4	CAP SCREW (BRG. CASE TO CASING)	P23X289	7/8"-9 x 1-3/4 KNUR. SOC. HD.	30		H	-162A-2		
2	PIN (BRG. CASE TO CASING)	P36L 228	1/2" X 1"	31		H	-162A-2		
				32					
				33					
				34					
				35					
				36					
ORDER NO. C2308		PART NO. C2308-30		DISTRIBUTION				Prepared By F.N. LX	
QUANTITY								Date 3-25-65 3-24-65	
DATE REQUIRED									

7.7

1965 APR 20 1965

MANUFACTURING BILL OF MATERIAL
APPARATUS ORDER - ASSEMBLY AND UNIT - DETAIL - PARTIAL - STANDARD

PART NO. C 2308-30		PART NAME 2CYR TURBINE		F.I.C.		APPARATUS TURBINE		DRAWING NO. Z-638671	
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	F.I.C.	DESCRIPTION	R.I.C.	QUAN.
1	NOZZLE RING	C2308-100	SEE NOTE	37			MAKES FROM 624761-1	MS	
NOTE: REAM THE FOLLOWING NOZZLES IN THE ABOVE NOZZLE RING FOR LOCATIONS.									
	DRAWING NO.			39					
2	646698		REGULAR Nozzle, 75/1750-20° L.H.	40					
1	633893-14		LOCATIONS # 1-2	41					
			REGULAR Nozzle, 75/1750-20° L.H.	42					
			LOCATIONS # 3	43					
			NO 1ST SURF. NOZZLES	44					
			NO 2ND SURF. NOZZLES	45					
18	CAP SCREW (FOR NOZZLE RING)	P23X226	5/8"-11 x 1" KNUR. SOC. HD.	46		H	-162A-2		
22	CAP SCREW (FOR NOZZLE RING)	P23X229	5/8"-11 x 1-3/4" KNUR. SOC. HD.	47		H	-162A-2		
40	LOCKWASHER (FOR ABOVE)	P25R26	5/8" SHAKEPROOF	48		MS	CAD. PL. STL.		
1	BUCKET HOLDER ASSEMBLY	624763-35	B/M	49		M			
				50					
	LOCATE BUCKET HOLDER AS PER ARRT. # 2 AS SHOWN ON DWG. 624783								
2	CAP SCREW (FOR BUCKET HOLDER)	P23X202	1/2"-13 x 2-1/2" KNUR. SOC. HD.	51					
2	LOCKWASHER (FOR ABOVE)	P25R24	1/2" SHAKEPROOF	52		H	-162A-2		
2	SPACER (FOR BUCKET HOLDER)	645957-1		53		HS	CAD. PL. STL.		
				54		HS			
DISTRIBUTION									
ORDER NO. C 2308 PART NO. C2308-30									
QUANTITY									
DATE REQUIRED									
Prepared By F.N. LK									
Date 3-25-65									
REV 4-20-65 LK									
Sheet 3 of 5									

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

PART NO. C2308-30		PART NAME 2 CYR TURBINE		F.I.C.		APPARATUS TURBINE		DRAWING NO. Z-638671			
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/ M	F.I.C.	Matl. Spec.	DESCRIPTION	MAKE FROM	R.I.C.	QUAN.
1	TRIP PIN SPRING	641554-1		55							
1	TRIP PIN	640374-1		56		HS					
1	TRIP PIN ADJ. NUT	647798-1		57		HS					
2	TRIP PIN LOCKWIRE	650093-1		58		HS					
1	TRIP PIN WASHER	E-62901-1		59		HS					
				60		HS					
				61							
				62							
1	ROTOR ASSEMBLY	613955-70	L.H. ROT. B/M	63		STD B/M					
8	PACKING RING ASSEMBLY	634159-7	B/M	64		MS					
4	OIL RING	640827-1		65		HS					
1	BEARING PEDESTAL (EXH. END)	601987-61	B/M	66		STD B/M					
4	SPACER (SPACER TO CASING)	649581-2		67		HS		649581-4			
2	STUD (PED. TO CASING)	646006-6		68		H					
2	TAPER PIN (FOR ABOVE STUD)	P36H195	#5 X 2"	69		HS		STL			
4	CAP SCREW (PED. TO CASING)	P23X289	7/8"-9 X 1-3/4" KNUR. SOC. HD.	70		H		-162A-2			
2	PIN (PED. TO CASING)	P36L228	1/2" X 1"	71		H		-162A-2			
1	REACHING OF BEARING PEDESTAL	638708		72				DRILL & TAP BEARING PEDESTAL AS SHOWN ON DWG. Z-6386708			
ORDER NO. C2308		PART NO. C2308-30		DISTRIBUTION				Prepared By E.N. Date 3-25-65			
QUANTITY											

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

PART NO. C 2308.30		PART NAME 2 CYR TURBINE		F.I.C.		APPARATUS TURBINE		DRAWING NO. 2.630671	
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/ M	F.I.C.	DESCRIPTION	MAKE FROM	QUAN.
1	STEAM CHEST ASSEMBLY	603156-318	B/M	73		STD B/m			
1	VALVE AND STEM ASSEMBLY	618234-111	3" ASSEM. IN STM. CHEST-- B/M	74		MS			
1	VALVE SEAT PIN	628191-5	3" ASSEM. IN STM. CHEST-- B/M	75		MS			
2	(STM. CHEST TO CASING)	P361226	1/2" x 3/4"	76		H	-162A-2		
10	NUT (STM. CHEST TO CASING)	P11A17	3/4"-10 HEX.	77		MS	STL.		
				78					
				79					
				80					
1	GOVERNOR	629381-64	B/M	81		STD B/m			
3	GOVERNOR WEIGHT	633023-9	B/m	82		MS			
				83					
1	GOVERNOR LEVERS	670328-613	B/M	84		STD B/m			
2	TRICO OILER	P6591A012		85		H			
1	PIPE NIPPLE (FOR STM. END BRG. CASE)	P41Y15	1/4" SCH. 80 x 2 1/2" LG.	86		H	TO BE USED ON BRG CASE AND PER. IN PLACE OF GITS #808 OIL CUR.	171	
1	PIPE NIPPLE (FOR EXH. END PER.)	P41X11	1/4" SCH. 80 x 1 1/2" LG.	87		H		171	
				88					
				89					
1	ASSEMBLY			90					
ORDER NO. C 2308		PART NO. C 2308-30		DISTRIBUTION				Prepared By E. N. LX	
QUANTITY								Date 3-25-65 3-29-65	
DATE REQUIRED									

17-13

[illegible]

PURCHASER'S ORDER NUMBER AND DATE						REQUISITION NO./MARKS						S.O. NO.		GENERAL ORDER							
														DATE				NUMBER			
														MO DAY				P/R YL NO			
HBM-26526-R						12047						(C-2067)		931208				SF682043			
STANDARD OIL CO OF CALIF. WESTERN OPERATIONS INC. DISBURSEMENTS OFFICE 355 MARKET STREET RM 909 SAN FRANCISCO CALIFORNIA 94120																		QUOTE CODE INVOICE DATE			
STANDARD OIL CO OF CALIF. WESTERN OPERATIONS INC. HBM-26526-R RICHMOND REFINERY PURCHASE AND STORES RICHMOND CALIFORNIA 94802																		SHIPPED FROM DATE SHIPPED			
ESTIMATED SHIPPING DATE CODE																		7/2/68			
TRANSPORTATION CHARGES																					
1. SHIPPING POINT/F.O.B. 2. DEST./F.O.B. 3. COLLECT 4. PREPAID 5. CHARGE 6. NO CHARGE																					
TAX USE REG. SHIP DEST. REQ. METHOD OF SHIP. ADDITIONAL MARKS TERMS: NET 30 DAYS UNLESS OTHERWISE INDICATED BELOW S/P INIT. CR. APPR.																					
DIST. CODE Y M C MO DAY CODE																					
0500X S121874 NORWALK RINGSBY EXPRESS																		136DPG			
ITEM	QTY.	DESCRIPTION/PART NO.	CATALOG NO.	F.I.C.	UNIT PRICE	AMOUNT															
1	1	CHROME PLATED	(C) 2067-100	SUL	HAVE FROM																
		STEEL NOZZLE RING PT 601			625148-1 (S)																
	3	R.E.G. Nozzle	646538																		
		.750/.750 - 20° RH LOCATION 2-3-4																			
	1	R.E.G. Nozzle	633842-14																		
		.690/.750 - 20° RH LOCATION 4-5																			
		NO OULD NOZZLE																			
		SEE REAM DIAG. 633977 FOR LOCATION																			
N1	FOR 2BYRM SN C2067-1																				
N2	DELIVERING CARRIER COLLECT FROM STND OIL CO																				
	OF CALIF WESTERN OPERATIONS INC TRAFFIC AND																				
	DISTRIBUTION DEPT BOX 7945 SAN FRANCISCO CALIF 94120																				
APP CODE	ORDER CODE	CARD CODE	SALES ALLOCATION			PRODUCT CODE	PRODUCT CODE	PRODUCT CODE	MONTH CREDIT	SERVICE PARTS	CUST REQUEST	D O P L	COPIES	COMMISSIONS.	AGENT	AMOUNT					
			DO % S/M %						INIT DATE	I O P B L L											
SF100448100									DH												

PURCHASER'S ORDER NUMBER AND DATE										REQUISITION NO./MARKS										S.O. NO.										GENERAL ORDER																																																																															
MO. DAY YR										MO. DAY YR										DATE										NUMBER																																																																															
11087										11087										31113										SF682009																																																																															
WR HMF560X06501										C-7467										QUOTE CODE: INVOICE DATE										1. D.O. 2. RES. OFF. 3. UNQUOTE																																																																															
STANDARD OIL CO OF CALIF. WESTERN OPERATIONS INC. 555 MARKET STREET SAN FRANCISCO CALIFORNIA																				SHIPPED FROM										DATE SHIPPED																																																																															
STANDARD OIL CO OF CALIF. WESTERN OPERATIONS INC. HMF560X06501 RICHMOND CALIFORNIA ATTN R.P. ELLIOTT																				HOW SHIPPED										ESTIMATED SHIPPING DATE																																																																															
TAX USE										REQ. SHIP										DEST.										REQ. METHOD OF SHIP.										ADDITIONAL MARKS										TERMS: NET 30 DAYS UNLESS OTHERWISE INDICATED BELOW										S/M INIT.										CR. APPR.																																							
0500X SASAPO4										CHPST WAY																																																																																																			
ITEM										QTY.										DESCRIPTION/PART NO.										CATALOG NO.										F.I.C.										UNIT PRICE										AMOUNT																																																	
1										8										SEALS										646704-1										5																																																																					

57
10-20

5

PURCHASER'S ORDER NUMBER AND DATE										REGISTRATION NO./MARKS										GENERAL ORDER									
TY CODE		MO		DAY		YR		S.O. NO.		P		C		T		DATE MO DAY		NUMBER PFR YR NO SFR											
0500X		10		20		7		HBM-26471-GS		10207		12067		P		31020		SF672317											
STANDARD OIL COMPANY OF CALIF. WESTERN OPERATIONS INC. 555 MARKET STREET SAN FRANCISCO CALIFORNIA										QUOTE CODE INVOICE DATE 1. D.O. 4 ISRV 2. REG. OFF. 1 PIS. QT. 3. UNQUOTE SHIPPED FROM DATE SHIPPED HOW SHIPPED																			
STANDARD OIL COMPANY OF CALIF. WESTERN OPERATIONS INC. HBM-26471-GS RICHMOND CALIFORNIA ATTN H.P. ELLIOTT										ESTIMATED SHIPPING DATE CODE 11-10-67 TRANSPORTATION CHARGES 1. SHIPPING POINT/F.O.B. 3. COLLECT 5. CHARGE 2. DEST./F.O.B. 4. PREPAID 6. NO CHARGE																			
TAR USE REG. SHIP DEST. REG. METHOD OF SHIP. ADDITIONAL MARKS										TERMS: NET 30 DAYS UNLESS OTHERWISE INDICATED BELOW																			
DIST. CODE		T		H		C		MO DAY		CODE		REG. METHOD OF SHIP.		ADDITIONAL MARKS		S/M INIT.		CR. APPR.											
0500X		SR		US		H		10		20		7		UNITED AIR		145		DPC											

[illegible]

N1 REQUESTED MONDAY IF POSSIBLE WITHOUT EXTRA CHARGE

[illegible]

CONTINUED ON PAGE 1

RWR
2 10/23

F-4

[illegible]

F5

GENERAL ORDER

08235 H-70323-GS

C-2067C30826 SF652264
6035

6 ' 5 CUDL	INVOICE DATE
------------	--------------

STANDARD OIL CO., OF CALIF.
WESTERN OPERATIONS, INC. H-70323-GS
ATTN: R.D. MURRAY
RICHMOND, CALIFORNIA

SHIPPED FROM	DATE SHIPPED
--------------	--------------

NOV. SHIPPED

SCHEDULED SHIPPING DATE

TRANSPORTATION CHARGES

1 SHIP POINT	3 COLLECT	5 CHANGE
2 DEST'ION	4 PREPAID	6. NO CHARGE

TAX	USE	REQ SMT	DEST	REQ METHOD OF SHIP.
-----	-----	---------	------	---------------------

ADDITIONAL MARKS

TERMS. NET 30 DAYS UNLESS
OTHERWISE INDICATED BELOW

S/M INIT.	CR APPR
--------------	------------

4 Q500X SASAP04

P P

146DP C

[illegible]

N1 REQUIRED AT DESTINATION ITEM #6 ON
9-3-65, BALANCE ON 9-17-65

SF 100 448 100

* PRODUCT CODE

PREVIOUS EDITION

Mr. Nathan
C. F. D. D.

SERVICE PARTS

CUS°
REQ°

COMMISSIONS

1: FAS

Abstract

DO
COPIES

F-6

VALVE TURBINE APPARATUS SPECIFICATION

P. O. NO. JI-7-G-537		PURCHASER Standard Oil Co. of California		USER Same	
DATE 11-30-64		ADDRESS 225 Bush Street San Francisco, Calif., 94104		ADDRESS Richmond Refinery Richmond, California	
GEN. ORDER NUMBER SF65-0004A					

TURBINE ROTATION FACING GOVERNOR	H.P. 375	TYPE TURBINE 2BYRH	TURB. RPM 4450	STEAM RATE 64.5	EXHAUST FACING GOV. ☐ L.H. ☒ R.H. ☐ UP ☐ DOWN
CLOCKWISE ☒	GEAR S.F. 1.5	TYPE GEAR C-3	GEAR RPM 1780	MINIMUM GEAR RPM 1780	GEAR SHAFT OFFSET FACING PINION ☒ L.H. ☐ R.H.
COUNTER-CLOCKWISE	DESIGN STEAM CONDITIONS 440	PSIG D&S	FTT 160	PSIG/IN. 600	DRIVEN MACHINE C.P.
CLOCKWISE	ELLIOTT CLASS III	SUITABLE 675	PSIG INLET 750	FTT 200	PSIG EXHAUST
YES	NO	NUMBER HAND VALVES ☒ NONE ☐ ONE ☐ TWO			HAND VALVE SETTINGS
		SPEED RANGE 4660 RPM TO 3750 RPM			HP RPM APPROX. RATE
		☐ DIRECT ☐ AIR DELAYED ☐ BUILT IN ☐ SEPARATE			PSIG FTT PSIG/IN. HG. ABS
		MAX. PSIG PSIG DIFF. CREASE WITH			HP RPM APPROX. RATE
		☐ AIR ELECTRIC TO PSIG SPEED RANGE INCREASING AIR PRESS.			PSIG FTT PSIG/IN. HG. ABS
		☒ PAINTED STAINLESS STEEL			PURCHASER'S INSPECTION ☐ NONE ☒ SURF ☒ NO LOAD FULL LOA
					WITNESS ☐ WITNESS
					PAINT REQMTS. ☒ STD. ☐ SPECIAL
					SHIPPING PREP. ☒ STD. ☐ EXPORT ☐ EXPORT BOX
		WATER TEMP. 85 OF. ☒ FRESH ☐ SALT ☐ BRACKISH			UNIT PRICE 10,226 CONTRACT PRICE 22,758
		☐ PLAIN ☐ DRIP RIM ☐ FABRICATED ☐ FLAT STEEL			TYPE PLANT Ref NET WEIGHT 4350
		Coupling Between Turbine & Gear ☒			DRAWINGS
		Mount Purchaser Half Coupling			PRINTS: QUAN. 5 TRANSPARENCY: QUAN. 1
		REMOTE TRIP ☒			☐ APPROVAL ☒ RECORD ☒ JEANNETTE ☒ DISTRICT
		CONDENSING GLAND SEALING ☒			QUANT. INSTR. BOOKS 8 BY ☒ DIST. ☐ JNTE.
		FLANGE STUDS ☒			FIELD WORK ☒ NONE ☐ SUPT. ONLY ☐ DAYS
		CONSTANT LEVEL OILERS ☒			ENGR/CONTRACTOR Bechtel Corp.
PENALTY CONTRACT ☐ YES ☒ NO				SALESMAN ARS #466	
				PRODUCT ENG. WES	

SPECIAL INSTRUCTIONS

1. Mark: P.O. JI-7-G-537 Turbine TP-737 & TP-737A
Two (2) duplicate units required
2. Furnish 1/4" IPS oil make-up connection in each bearing cap in addition to oil ring inspection plugs
3. Trip speed set at 5340 RPM, maximum continuous speed 5000 RPM
4. 4" steam inlet, no load commercial test to be witnessed at Elliott time specified. We are to notify Standard Oil 10 days in advance.
5. Turbine to be capable of 375 HP with 440 psig - 600°F steam

Two Units

DATE REGISTERED 12-2-64	REG. CONTRACT SERVICES BY C.T. 12-7-64	REQUESTED SHIPPING DATE 3-20-65	SCHEDULED SHIPPING DATE * (with 4-2-65)	SHOP ORDER/SERIAL NO. * C 2067
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* NOT TO BE COMPLETED IN FIELD

valve & steam Assy - 6182311-111
valve seat - 628192-4
nozzles - 3 - 750/750
1 - 600/750

D.O. COPIES

SF

DEC 10 1964

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ENGINEERING DEPARTMENT

SINGLE STAGE TURBINE AND/OR GEAR DESCRIPTIVE SPECIFICATIONS

DATE 9 DEC 64	GENERAL ORDER SF65-0004A	SHOP ORDER C 2067-1-2
INLET CONN. SIZE 4 GOV. VALVE SIZE 3" DS EXHAUST CONN. STD. R.H. TURB. ROT. STD. R.H. (FROM GOV. END) ROTOR FOR 5916 R.P.M. MAX. TRIP TYPE GOV. STD SMALL SPEED CHANGER HAND (HAND DRIVEN UPPER LOWER) INSUL. AND JACKETING STD. STD. COUPLING H.S. FAST 2 1/2" GEAR OFFSET L.H. STD. (FROM GOV. END) GEAR RATIO 2.52	GEAR NAME PLATE DATA GEAR SERIAL NO. C20676-1-2 RATING 375 HP SIZE C-3 SERVICE FACTOR 1.5 H.S. 4450 R.P.M. L.S. 1780 R.P.M. INSTR. BOOK NO. 200	TURBINE NAME PLATE DATA TURBINE SERIAL NO. C2067-1-2 TYPE 2BYRH HP 375 R.P.M. 4450 INLET 440 PSIG TEMP. 457 DEG. F EXH. 160 PSIG TRIP SETTING 5340 R.P.M. CLASS TURB. III INSTR. BOOK NO. 100

OIL SYSTEM

TURB. BRGS. **STD.** F.F. PIPING MAT'L. THIN WALL **STL. TUBING** OIL RESERVOIR **GEAR CASE -14.8**

OIL PUMP SIZE **.535** GAL. 100 R.P.M. DRIVEN FROM **GEAR**

OIL COOLER **BASCO 65024** OIL FILTER **CUNO EG**

PAINTING REQUIREMENTS: STD.
 SHIPPING PREPARATION: STD., CLASS A, SP-109, GR. 2, SLUSHING SP-301

SPECIAL CONSTRUCTION:

FURNISH CARBON RINGS **625389-29**
 FURNISH BRACKET TYPE COUPLING GUARD
 BETWEEN TURBINE AND GEAR.

TURBINE NAME PLATE DATA
(MAX. DESIGN CONDITIONS)

INLET **675** PSIG
 TEMP. **750** DEG. F
 EXH. **200** PSIG
 FIRST CRITICAL **7000** R.P.M.

OUTLINE

DRIVEN MACHINE (NOT FURNISHED)

CP

AUXILIARY APPARATUS:
BASCO OIL COOLER - 401938
FAST COUPLING - 401939

REVISIONS	
BY	DATE
△ CMC	11 DEC 64
△ CMC	18 DEC 64

F-8

3

B/M's

EM O.	NAME OF PART	F.I.C P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.P.O. P.B.M. A.M.A.	QUAN
1	2 BYRH TURBINE	B/M	C2067 -50				B/M		2
4	NAME PLATE (TURBINE)	H	P620A304			STNLS. STL.	PURCHASED STAMP AS FOLLOWS:		2
3			TURBINE NO. C2067-1 C2067-2				TYPE 2 BYRH		
4			HP. 375 SPEED 4750		R.P.M.	MAX. DESIGN CONDITIONS: SPEED 5916	R.P.M.		
5			TRIP SETTING 5340 INLET PRESS. 440		R.P.M. PSIG	INLET PRESS. 675	PSIG		
6			INLET TEMP. 757° EXH. PRESS. 160		F. PSIG	INLET TEMP. 750° EXH. PRESS. 200	F. PSIG		
7			EXH. PRESS. — IN. HG. ABS. INSTRUCTION BOOK NO. 100			FIRST CRITICAL 7000	R.P.M.		
8									
9	SELF TAPPING SCREWS (FOR ABOVE)	HS	P22D23			STNLS STL.	#6-32 x 3/8" Lg		8
10	NAME PLATE (GEAR)	H	P620A301			STNLS. STL.	PURCHASED. STAMP AS FOLLOWS: :		2
11			GEAR SERIAL NO. C2067-G1 RATING 375		HP	C2067-G2 SERVICE FACTOR 1.5			
12			HS 4750 R.P.M. SIZE C-3			L.S. 1780 R.P.M. INSTRUCTION BOOK NO. 200			
13									
14	SELF TAPPING SCREWS (FOR ABOVE)	HS	P22D23			STNLS. STL.	#6-32 x 3/8" Lg		8
15	NAME PLATE	H	845678 -1				PURCHASED		2
16	SELF TAPPING SCREWS (FOR ABOVE)	HS	P22D23			STNLS STL.	#6-32 x 3/8" Lg		8
17									
18	C-3 GEAR	B/M	C2067 C-3				B/M		2
19									
20									
21									
22									
23									
24									
25									

CATALOG NO. C2067

OUTLINE NO. C2067

RECORD NO. SF65-0009A

TWO TYPE 2 BYRH TURBINE #C2067-1

#C2067-2 #C-3 GEAR #C2067-G1 #C2067-G2

FOR: STANDARD OIL CO. OF CALIFORNIA

ASSEMBLY BILL OF MATERIAL

ITEM NO.	NAME OF PART	F.I.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.B.M. A.M.A.	QUAN.
27	INSULATION AND LAGGING (STN. CH.)	STD. B/M	625271 - G4				B/M		2
28	NIPPLE (FOR VALVE STN LEAKOFF)	H	P41493			171	1/2" (LONG) SCA 80 X 9 1/2" ASSEM. IN STEAM CHEST COVER, TO EXTEND THRU LAGGING		2
29									
30	INSULATION AND LAGGING (TURB.)	STD. B/M	613519 - G1				B/M		2
31									
32	OIL COOLER	REQ. NO. 401938					PURCHASED - BASCO		2
33	OIL FILTER	MS	P35163010				PURCHASED CUMMINS TYPE "EG"		2
34	OIL PIPING	B/M	619159 - GR.1				B/M		2
35									
36	COUPLING (H.S.)	REQ. NO. 401939					PURCHASED - FAST #212		2
37	KEY (FOR DRIVING HALF COUPLING)	H	641388 - 2			55	7/16" x 5/8" x 3 1/32" LG		2
38	KEY (FOR DRIVEN HALF COUPLING)	H	641388 - 10			55	3/8" x 1/2" x 2 1/16" LG		2
	(H.S.) COUPLING GUARD	B/M	635687 - 4				B/M		2
40	WASHERS (FOR ABOVE)	H	PL5 F23			STL.	5/8"		4
41	MOUNTING COUPLING HALF					MOUNT PURCHASERS R.M.A. #1289 & 1290	COUPLING HALF ON GEAR SHAFT.		2
42	KEYS (FOR ABOVE)	H	641388 - 51			55	1/2" x 3/4" x 3 1/32" LG		2
43									
44									
45	ASSEMBLY								2
46	TEST					(NOTIFY ORDER DEPT TWO WEEKS IN ADVANCE OF TEST SO THEY CAN NOTIFY STANDARD OIL.)	AS PER SP-30 NO LOAD WITNESS		2
47	INSPECTION								2
48	PAINTING						AS PER PS-402		2
49	SLUSHING AND SHIPPING PREP.						STD. CLASS A SP-109 GR. 2 SLUSHING		2
50							SP-501		

CATALOG NO. C2067	TWO TYPE 2 BYRN TURBINE C2067-1	ASSEMBLY BILL OF MATERIAL
IE	#C2067-2 & C-3 GEAR #B2067-61 & C2067G2	
I.O. NO. C2067	FOR: STANDARD OIL CO. OF CALIFORNIA	
RECORD NO. SF65-0007A		

ITEM NO.	NAME OF PART	F.I.C. P.O. P.B.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.B.M. A.M.A.	QUAN.
	Casing Assem.	STD. B/M	613474 -20				B/M		1
	Packing Case Assem.	MS	613479 -9				See Note B/M		2
Note:—See Piping Diagram Dwg. for Parts to be Assembled On Pkg. Cases before Bolting Pkg. cases to casing.									
	Cap Screw (Pkg. Cases to Casing)	H S	P23T228			-162A-2	5/8"-11 x 1-1/2" Lg. Knurled Socket Hd.		20
	Piping Diagram (Leakage)	STD. B/M	625988 -42				B/M		1
	STM. END BRG. CASE REMACHINING		638707			DRILL & TAP BEARING CASE AS SHOWN ON DWG. 2-638707			1
	Sentinel Valve	MS	P67 F11				3/4" Set at 275# Purchased		1
	Plug (For Hand Valve Opening)	MS	646659 -1						2
	Gasket (For Above)	H S	646126 -7				Purchased		2
	Bearing Liner (Upper Half)	MS	625781 -5				Purchased		2
	Bearing Liner (Lower Half)	MS	625781 -6				Purchased		2
	ALL BEARING (THRUST)	MS	647226 -2						
	Bearing Case (Steam End)	STD. B/M	617531 -418				B/M		1
	LATCH ASSEM.	MS	624984 -11						
	End Support	M	646559 -6						1
	Mach. Bolt (Brg. Case to Support)	H	P10C263			-162A-2	5/8"-11 x 2" Long Hex. Hd. S.F.		2
	Lockwasher (For Above)	H	P25A49			Steel	5/8" (.203" x .156") "Kantlink"		2
	Nuts (For Above)	H S	P11A16			Steel	5/8"-11 Hex. S.F.		2
	Spacer (Brg. Case to Casing)	H S	649581 -2			Steel	Make From Purchased Washer 649581-4		4
	Cap Screw (Brg. Case to Casing)	H	P23T289			-162A-2	7/8"-9 x 1-3/4" Long Knurled Socket Hd.		4
	Pin (Brg. Case to Casing)	H	P36L228						2
	STM. END BRG. CASE REMACHINING		638707			DRILL & TAP BEARING CASE AS SHOWN ON DWG. 2-638707			1

CATALOG NO.

C2067-50

Type

2 BYRH

Turbine

LINE

I.O. NO.

C2067

For:

STANDARD OIL CO. OF CALIFORNIA

RECORD NO.

5F65-0007A

UNIT
BILL OF
MATERIAL

PREP. BY E.M. DATE 12-12-64

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Q. NO.	NAME OF PART	P.I.C. P.O. P.E.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	P.I.C.-P.O. P.E.M. A.M.A.	QUAN.	✓
5	Nozzle Ring		C2007 -100	Note—Ream as Specified	Nozzles Below		MAKE FROM 625148-1	MS	1	
7					646538	REGULAR	NOZZLES .75/.75-20°-R.H. LOCATIONS # 2-3-4		3	
8					633844 -14	REGULAR	NOZZLE .69/.75-20°-R.H. LOCATION # 5		1	
9							NO 1ST OULP NOZZLES			
0							NO 2ND OULP NOZZLES			
1										
2				NOTE:-See Reaming Diagram 633977 for locations of above Nozzles						
3	Cap Screw (For Nozzle Ring)	HS	P23T226			-162A-2	5/8"-11 x 1" long Knurled Socket Hd.		14	
4	Cap Screw (For Nozzle Ring)	HS	P23T229			-162A-2	5/8"-11 x 1-3/4" long Knurled Socket Hd.		22	
5	Lockwasher (For Above)	HS	P25R26			Cad. Pl. Steel	5/8" Shakeproof		36	
6										
7										
8	Bucket Holder Assembly	MS	612566 -25				LOCATE AS PER ARRGT. # 6 AS SHOWN ON DNG. 612566 B/M		1	
9	Cap Screw (For Bucket Holder)	HS	P23T202			-162A-2	1/2"-13 x 2-1/2" lg. Knurled Socket Hd.		4	
1	Lockwasher (For Above)	HS	P25R24			Cad. Pl. Steel	1/2" Shakeproof		4	
2	Spacer (for Bucket Holder)	HS	645997 -1						4	
3	Trip Pin Spring	HS	641557 -1				Purchased		1	
4	Trip Pin	HS	640374 -4						1	
5	Trip Pin Adj. Nut	HS	647793 -1						1	
6	Trip Pin Lockwire	HS	650093 -1						2	
7	Trip Pin Washer	HS	E-62901 -1						1	
8										
9	Rotor Assembly	STD. B/M	613987 -96				R.H. Rot. B/M		1	
0	Packing Ring Assembly	MS	625387 -29				B/M		14	

CATALOG NO. C2067-50	Type 2 BYRH	Turbine	UNIT BILL OF MATERIAL F-12
I.O. NO. C2067	For:- STANDARD OIL CO. OF CALIFORNIA		
RECORD NO. 5F65-0009A			
PREP. BY E.N. DATE 12-12-67	3 PAGES PAGE NO. 2		

ITEM NO.	NAME OF PART	F.I.C. P.O. P.S.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C.-P.O. P.S.M. A.M.A.	QUAN.
	Oil Rings	HS	640927-1						4
32	Bearing Ped. Assem. (Exh. End)	STD. B/M	601987-42				B/M		1
33	Spacer (Ped. To Casing)	HS	649581-2			Steel	Make From Purchased Washer 649581-4		4
34	Stud (Ped. To Casing)	H	646006-4						2
35	Taper Pin (For Above Stud)	HS	P36H195			Steel	15 x 2" Long		2
36	Cap Screw (Ped. To Casing)	H	P23T289			-162A-2	7/8"-9 x 1-3/4" Long Knurled Socket Hd.		4
37	Pin (Ped. To Casing)	H	P36L228						2
FINISHING OF									
REWORK PIN									
39	Steam Chest Assembly	STD. B/M	603156-311				B/M		1
40	Valve and Stem Assem.	MS	618234-111				3" Assem. in Above Steam Chest B/M		1
41	Valve Seat	MS	628192-4				3" Assem. in Above Steam Chest		1
42	Pin (Stm. Chest To Casing)	H	P36L226						2
43	Nuts (Stm. Chest To Casing)	HS	P11A17			Steel	3/4"-10 Hex. S.F.		10
FINISHING OF									
DRILL & TAP BEARING PEDISTAL AS SHOWN ON DWG. 2-638708									
5									
6									
7	Governor	STD. B/M	629381-44				B/M		1
8	Governor Weight	MS	633823-1						3
9									
10	Governor Levers	STD. B/M	670328-413				B/M		1
11									
12									
13									
14									
15	Assembly								1

CATALOG NO. C2067-50	Type 2BYRH Turbine	UNIT BILL OF MATERIAL F-14
S.O. NO. C2067	For:- STANDARD OIL CO. OF CALIFORNIA	
RECORD NO. 5F65-0007A		
PREP. BY E.N. DATE 12-12-67		

ITEM NO.	NAME OF PART	P.I.C. P.O. P.S.M.	CATALOG NO.	PATTERN NO.	DRAWING NO.	MATERIAL SPEC.	DESCRIPTION	R.I.C. P.O. P.S.M. A.M.A.	QUAN.
	ear Assembly	STD. B/M	627133 - 6				2.52/1 Ratio B/M		1
2	Pinion	M	627133 - 1				MAKE FROM FORG. 635572-1		1
3	PINION SHAFT	MS	625663 - 3				B/M		1
4									
5	Gear Case	B/M	613180 - 412				B/M		1
6									
7									
8									
9									
10									
11									
12									
13	Bearing Liner Half	MS	634398 - 3						8
14									
15	Gauge (Oil Level)		627709 - 42				MAKE FROM 627709-5	H	1
16	Tube Assem. (For Above Gauge)	M	636042 - 3				B/M		1
17	Oil Pump Assembly	STD. B/M	634487 - 8				.535 Gal./100 R.P.M.		1
18	CAP SCREW (OIL PUMP TO GEAR CASE)	H	P23T136			248A-2	5/8" x 1 1/2"		4
19									
20									
21									
22									
23									
24									
25	Assembly								1

CATALOG NO. C2067-603	1	C-2 GEAR	UNIT BILL OF MATERIAL F-15
S.O. NO. C2067	For: STANDARD OIL CO. OF CALIFORNIA		
RECORD NO. 5F65-0009A			
PREP. BY E.N. DATE 12-12-67			
			1 PAGES PAGE NO. 1

1965

A Division Junior Corporation

MANUFACTURING BILL OF MATERIAL
APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

PART NO.		PART NAME		BYEN-# C-3		F.I.C.		APPARATUS		DRAWING NO.	
619159-6e1		Oil Piping		H.H. R. 440101				Tubing			
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/M	F.I.C.	DESCRIPTION	MAKE FROM	U/M	R.I.C.	QUAN.
1	TUBING	619159-1	CUT 4 BEND TO SUIT	1				TAB 5-125 1/4" OD	A	H	8.000
1	TUBING	619159-2		2				TAB 5-104 1" OD	C	H	13.000
1	TUBING	619159-3		3				TAB 5-077 3/4" OD	C	H	5.000
1	TUBING	619159-4		4				TAB 5-064 5/8" OD	C	H	7.000
1	TUBING	619159-5	Y	5				TAB 5-055 1/2" OD	C	H	8.000
1	CHECK VALVE	P6A81A	1"-125"	6		HS		BE			
1	RELIEF VALVE	P65D11	3/4"-125" 3500 PSI	8		MS		BE			
1	SIGHT FLOW INDICATOR	P70Q11	3/4"	9		MS		BE			
1	GLOBE VALVE	P62A11	1/4"-125"	10		H		BE			
1	HAIF NIPPLE	P41T40	1/4"-80 x 1 1/2"	11		H		171			
1	OIL PRESS GAUGE	P52A19	3 1/2" DIAL. GAUGE 0-300	13		H					
1	TUBE COUPLING	P47A26	1 1/2" M.	13		H		37L			
2	TUBE COUPLING	P47A25	1" M	14		H		37L			
2	TUBE COUPLING	P47B24	1" F.	15		H		37L			
2	TUBE COUPLING	P47A22	3/4" M	17		H		37L			
ORDER NO.		PART NO.		DISTRIBUTION		Prepared By: <u>WMS-PCJ</u>		L.S.		Date: <u>12-23-64</u>	
619159-6e1										1-8-65	
QUANTITY											
DATE REQUIRED											

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MANUFACTURING BILL OF MATERIAL
APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD

PART NO.		PART NAME		BY EX - C-3 IN PR. 1400000		F.I.C.		APPARATUS <u>TURBINE</u>		DRAWING NO.	
619159-661		OIL PUMP									
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO.	U/ M	F.I.C.	DESCRIPTION	MAKE FROM	R.I.C.	QUAN.	✓
1	TUBE ELBOW	PA7H24	1" 90° F	20		H					
1	TUBE ELBOW	PA7G24	1" 90° M	21		H					
2	TUBE ELBOW	PA7F18	1" 45° F	22		H					
1	TUBE ELBOW	PA7G22	3/4" 90° M	23		H					
2	TUBE ELBOW	PA7G18	1/2" 3/4" 90° M	24		H					
1	TUBE UNION	PA7D16	5/8" x 1/2"	25		H					
2	ORIFICE PLUG	692789-5	1/8" DIA. F.	26		M					
2	PIPE NIPPLE	PA1Y19	1" 90° x 2 1/2"	27		H					
2	PIPE NIPPLE	PA1X14	3/4" 80° x 2	28		HS					
2	PIPE NIPPLE	PA1Y24	3/4" 80° x 2	29		H					
2	REDUCING BUSHING	PA1V31	1 1/2" x 1	31		H					
4	REDUCING BUSHING	PA1V20	1" x 3/4"	32		HS					
1	REDUCING BUSHING	PA1V30	1 1/2" x 1 1/4"	33		H					
1	REDUCING BUSHING	PA1V32	1 1/2" x 3/4"	34		H					
2	STREET ELBOW	PA1L15	1" 90°	35		H					
1	PIPE PLUG	PA0L11	1/4" HEX.	36		H					
ORDER NO.		PART NO.		DISTRIBUTION		Prepared By: <u>W992</u> - <u>PCW</u>		Date: <u>12/23/69</u>		1-8-65	
619159-661											
QUANTITY											
DATE REQUIRED											

55

Center Corporation

MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD.

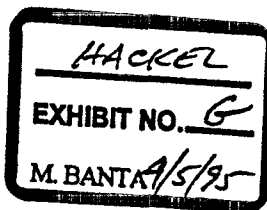
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MANUFACTURING BILL OF MATERIAL

APPARATUS ORDER - ASSEMBLY AND TEST - UNIT - DETAIL - PARTIAL - STANDARD
 LL
 A Detail
 -enter Corporation
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 551
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PART NO. 613180-G12		PART NAME GEAR CASE		F.I.C.		APPARATUS 1/2 TURBINE		DRAWING NO.		
QUAN.	PART NAME	PART NO.	REFERENCE OR DRAWING NO.	ITEM NO. U/M	F.I.C.	Matl. Spec.	DESCRIPTION	U/M	R.I.C.	QUAN.
1	GEAR CASE & CAP	601479-11	B/M	2	M					
1	BAFFLE	647559-3	B/M	5	MS					
1	COVER	647551-1		8	M					
1	BAFFLE	634399-3	B/M	9	M					
1	SPRAY NOZZLE ASSY.	634378-10	B/M	12	M					
1	GASKET	691698-1		13	H					
1	WASHER	647545-1		14	H					
1	LOCKWASHER	647546-1		15	H					
1	CAP NUT	P14R19	1"-9	16	H	BRASS				
1	BALL BEARING	647226-2		21	MS					
1	SLEEVE	647556-1		22	MS					
1	WASHER	690433-1		23	H					
1	GASKET	P59Y11		24	H	VELL.				
1	SHIM	647557-1		26	HS					
2	SHIM	647557-2		27	HS					
5	SHIM	647557-3		28	H					
1	KEY	641388-178		29	H					
1	LOCKWASHER	P28A26	W-16	30	HS					
ORDER NO.		PART NO. 613180-G12		DISTRIBUTION		Prepared By: G.B.		Date: 5-13-64		
QUANTITY										
DATE REQUIRED										

T. 20



WORKING TOLERANCES UNLESS OTHERWISE SPECIFIED		SURFACE ROUGHNESS	
MACHINING	FABRICATING		
±.010" TO 2"	±.010" TO 2"	125	125
±.015" 2" TO 10"	±.015" 2" TO 10"	150	150
±.030 OVER 10"	±.030 OVER 10"	250	250
ANGLES ±.1°	ANGLES ±.1°	320	320
ALL THREADS CLASS 2 FIT		1000	1000

72			
73			
72			
71			
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68			
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48			
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46			
45	1/2	1"	2"
44	15/16	2	1 1/2"
43	7/16	3/4	1 1/2"
42	5/8	1	1 1/2"
41	5/8	1	1 3/4"
40	1	1 3/4	1 1/2"
39	1/2	1 5/16	1 1/2"
38	FEATURES SHOWN AS IS		

PART SKETCH BOX DIA FROM ME
NO. A B C

MAKE FROM PT #1-2 RINGS →
MAKE FROM PT #20-4 RINGS →
MAKE FROM PT #2 →
MAKE FROM PT #4 →
4 RINGS →
SEE NOTE A →
3 RINGS →
6 RINGS →

37	5/8	1 1/2	1
36	7/8	1 3/4	1
35	3/8	7/8	1 1/2
34	1	1 3/4	1
33	5/8	1 1/2	1 1/2
32	1/2	1	1 1/2
31	3/4	1 1/2	1 1/2
30	1/2	1	1
29	3/4	1 1/2	1 1/2
28	1/2	1	1 3/4
27	3/4	1 1/2	3/4
26	3/8	7/8	1 1/2
25	1 3/4	2 3/4	3/4
24	3/8	7/8	1 1/2 RINGS
23	7/8	2 5/8	2 3/8
22	1/2	1	1 3/16
21	1 1/2	2 1/2	5/8
20	1	1 3/4	2
19	1/4	3/4	1 5/8
18	3/8	7/8	1
17	3/4	1 1/2	1 1/4
16	2 1/2	3 1/2	
15	2 1/4	3 1/4	
14	2	3	1 3/8
13	1 7/8	3	2 1/4
12	1 3/4	2 3/4	2
11	1 5/8	2 5/8	
10	1 1/2	2 1/2	2 1/8
9	1 3/8	2 3/8	2 1/4
8	1 1/4	2 1/4	2 1/8
7	1 1/8	2	
6	1	2	2
5	3/2	1 5/8	1 5/8
4	3/4	1 1/2	1 3/4
3	5/8	1 1/8	1 1/2
2	1/2	1	1 1/2
1	3/2	7/8	1 5/8

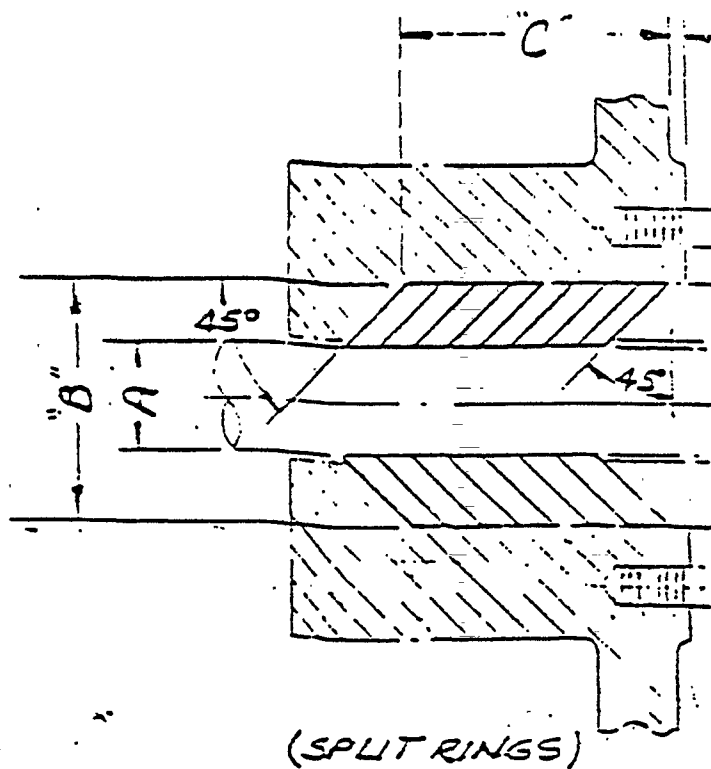
PART SKETCH BOX DIA FROM ME
NO. A B C

PACKING FLEXIBLE
JOHN CRANE

SIMILAR TO		DR.		ENG. AP.	SCALE NTS	FIRST S.O.
S-645710 S-694775 S-624199 S-642053		CK.		MFG. AP.		
PROCESS SPECS.		DES. AP.		MET AP.	DATE 2 6 59	ASSEMBLY
NOT RELEASED FOR MANUFACTURE		ELLIOTT COMPANY				
RELEASED FOR MANU- FACTURE		A DIVISION OF CARRIER CORPORATION				
		JEANNETTE, PA.				

Z-637387

Z-637387



MACHINING	FABRICATING	
±.010" TO 2"	±.010" TO 24"	16
±.015" 2" TO 10"	±.015" 24" TO 48"	32
±.030 OVER 10"	±.030 OVER 48"	63
ANGLES ±.15°		130
		250
		500
		1000
ALL THREADS CLASS 2 FIT		

37	5/8	1 1/2	1
36	7/8	1 3/4	1
35	3/8	7/8	1/2
34	1	1 3/4	1
33	5/8	1 1/2	1/2
32	1/2	1	1/2
31	3/4	1 1/2	1/2
30	1/2	1	1
29	3/4	1 1/2	1 1/2
28	1/2	1	1 3/4
27	3/4	1 1/2	3/4
26	3/8	7/8	1 1/2
25	1 3/4	2 3/4	3/4
24	3/8	7/8	1 1/2 RINGS
23	7/8	2 5/8	3 3/8
22	1/2	1	1 3/16
21	1 1/2	2 1/2	5/8
20	1	1 3/4	2
19	1/4	3/4	1 3/8
18	3/8	7/8	1
17	3/4	1 1/2	1 1/4
16	2 1/2	3 1/2	
15	2 1/4	3 1/4	
14	2	3	1 3/8
13	1 7/8	3	2 1/4
12	1 3/4	2 3/4	2
11	1 5/8	2 5/8	
10	1 1/2	2 1/2	2 1/8
9	1 3/8	2 3/8	2 1/4
8	1 1/4	2 1/4	2 1/8
7	1 1/8	2	
6	1	2	2
5	7/8	1 5/8	1 5/8
4	3/4	1 1/2	1 3/4
3	5/8	1 1/8	1 1/2
2	1/2	1	1 1/2
1	3/8	7/8	1 5/8

NOTES:

- A- FOR PART #29 PACKING CON WITH LANTERN GLAND.
- B- PACKING RINGS TO BE N
- C- PACKING RINGS TO BE S
- D- VENDOR TO PRESS PAC (CHEVRON) SHAPE.
- E- SUITABLE FOR 850°
- F- MAKE FROM JOHN CRANE

PART ITEM ON BOX DIA PK SPA
NO A B C

ENGINE	CHANGES
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97	97
98	98
99	99
100	100

PACKING FLEXIBLE
JOHN CRANE

SCALE NTS FIRST S. O.
DATE 2 6 59 ASSEMBLY

COMPANY
CARRIER CORPORATION
NETTE, PA.

Z-637387

Elliott

NOTICE

PERSONNEL NOTICE 19-73

June 25, 1973

SAFETY AND HEALTH

Effective immediately and from this point on, all employees handling asbestos material of any kind must wear a dust mask during periods of handling.

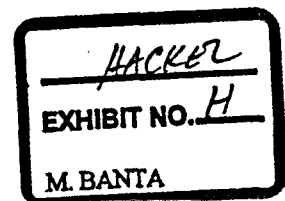
Asbestos fibers are capable of producing severe harmful effects. In this respect, dust masks must be worn to prevent any undue exposure to the fibers.

Supervisors will make certain that their employees wear the necessary dust masks when handling asbestos material of any kind.

J. Barton Delaney

CC: 4:04
4:05

MR. JOHN H. BECKER	14- 7
MR. DARWIN W. CROCKER	48-11
MR. SAMUEL R. FERARI	1-10
MR. LEONARD FRANCAZAK	1- 1
FIRST AID DEPARTMENT	41- 1
MR. RANDALL J. GEBHARDT	45- 5
MR. GEORGE A. HANSEN	5- 2
MR. RALPH E. HICKMAN	34-10
MR. GEORGE KOCHIK	43- 4
MR. DONALD P. MULL	1- 2
MR. ROBERT S. MUSE	1-16
MR. CLYDE D. McCLELLAND	52- 2
MR. FRANK W. SMITH	48-13
MR. PAUL R. SMITH	1- 8
MR. KEITH TOBIN	65- 6
MR. VINCENT G. WEIGERS	34-10A



Approved for posting: *[Signature]*

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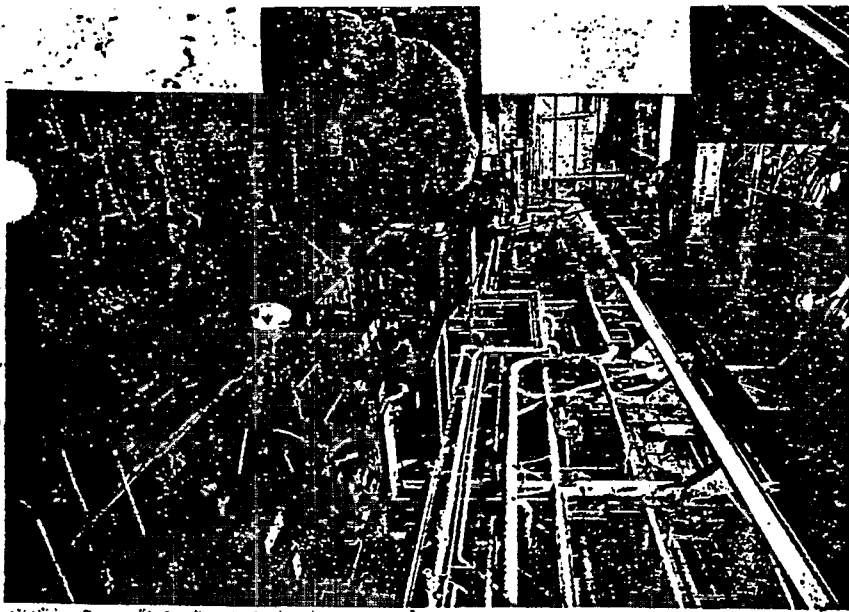
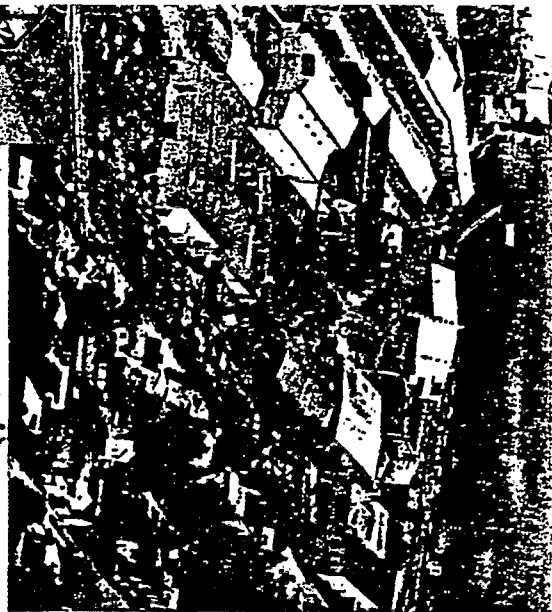
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Albano Magra (MS) Italy
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Fax: (0187) 52 91 08

**Welcome
to....**

KACER
EXHIBIT NO. I
M. BANTA



As the history of Elliott Turbomachinery Company unfolds, it is clearly evident that since its founding, Elliott has upheld a proud tradition of innovation, excellence, and outstanding product quality.

Elliott Turbomachinery Company has had a rich and varied past. Through effective leadership and the dedication of thousands of employees over the years, Elliott has continually retained its status as one of the premier manufacturers of turbomachinery products worldwide. By strategically taking advantage of available business opportunities and effectively responding to market trends, Elliott has grown in both size and prominence as a leader in the turbomachinery industry.

Although impressive, Elliott's history has not been untouched by turbulence. Shortly after being acquired by United Technologies Corporation (UTC) in 1979, fluctuations in the oil and petrochemical industries worldwide began to adversely impact Elliott's profitability. In 1986, UTC decided that Elliott did not coincide with their core business structure, and subsequently put the company up for sale.

Elliott's senior management team simply refused to let the Elliott tradition fade into obscurity, however. As a result, in 1987, a group of investors including Elliott's senior management team members, successfully purchased Elliott from UTC via a Leveraged Buy-Out.

Through strong leadership and the concerted effort of over 1800 talented employees at Elliott sales and service locations worldwide, Elliott has operated as an increasingly profitable, self-reliant organization since the Leveraged Buy-Out.

It is with great pride that Elliott remains a thriving, vital facet of the worldwide turbomachinery industry. Our goal is to continue to serve our clients with the quality Elliott products and services that they have come to know and expect, while maintaining an environment in which our employees may grow professionally, and proudly continue as very integral members of the winning Elliott team.



And so, *The Tradition Continues*. As we look back on the past we see that resiliency, hard work, and perseverance in achieving our goals run as consistent themes throughout our history. As we look to the future, we find that those old-fashioned ideals can still apply, even in our fast-paced, technologically changing world. The lessons of our rich and varied past serve to better enable us to conquer the challenges of the future.

At Elliott, we anxiously await the promise of tomorrow.

Paul R. Smy
Chairman and C.E.O.

Paul R. Smy



William
Swan
Elliott

1895 Chicago Boiler Cleaner Co. is formed using patent rights from a young engineer named William Swan Elliott. The patent is for a water motor and "freely-swinging arm" used to clean scale from boiler tubes.

1910 Elliott is incorporated on May 19.

1914 Elliott moves to Jeannette, Pennsylvania.

1916 Elliott acquires Argenta Manufacturing Co. This acquisition broadens Elliott's scope in tube cleaning tools.

1924 Elliott purchases Kerr Turbine Company.

1926 Elliott purchases Ridgway Dynamo & Engine Co. Elliott now has a line of generators and compressors to complement their newly acquired turbine line.

1934 Elliott consolidates compressor and turbine manufacturing in Jeannette.

1941 First turbocharger installation on diesel engines in the United States is made by Elliott.

1942 All Elliott plants convert to production of war material. Elliott receives the Army and Navy "E" for excellence in manufacturing and productivity.

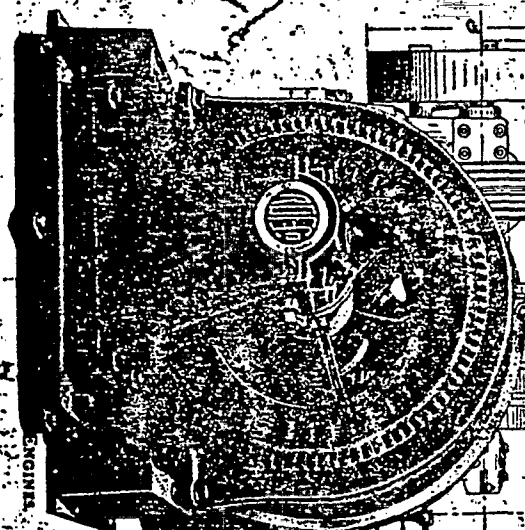
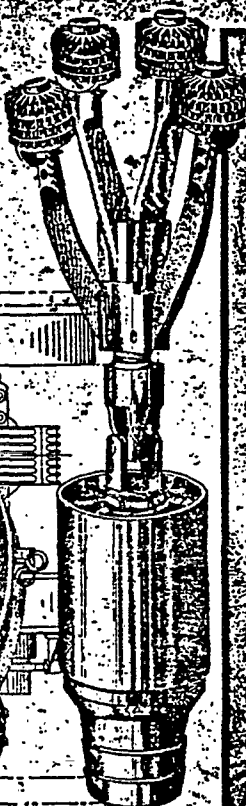
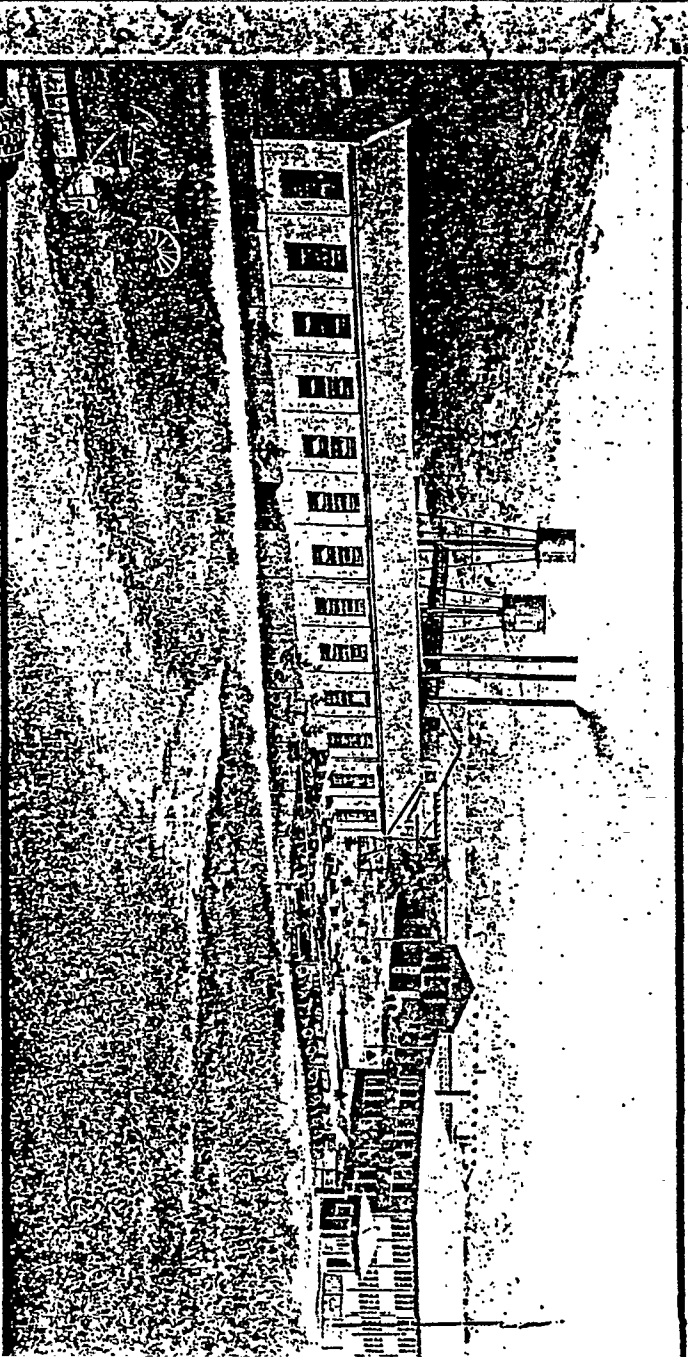
1957 Elliott becomes a Division of Carter Corporation.

1962 Elliott introduces the PAP Plant Air Package® a light weight, three stage centrifugal air compressor.

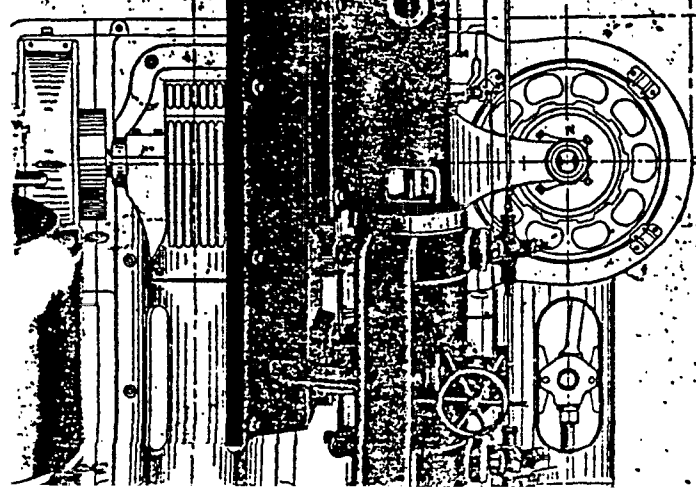
1967 Elliott Overseas Corporation is formed and Elliott enters a "multi national era."

1968 Ebara Manufacturing Company Japan, is licensed to manufacture Elliott designed turbomachinery.

Introduces the world's highest pressure 2000 psi/653 bar compressor for



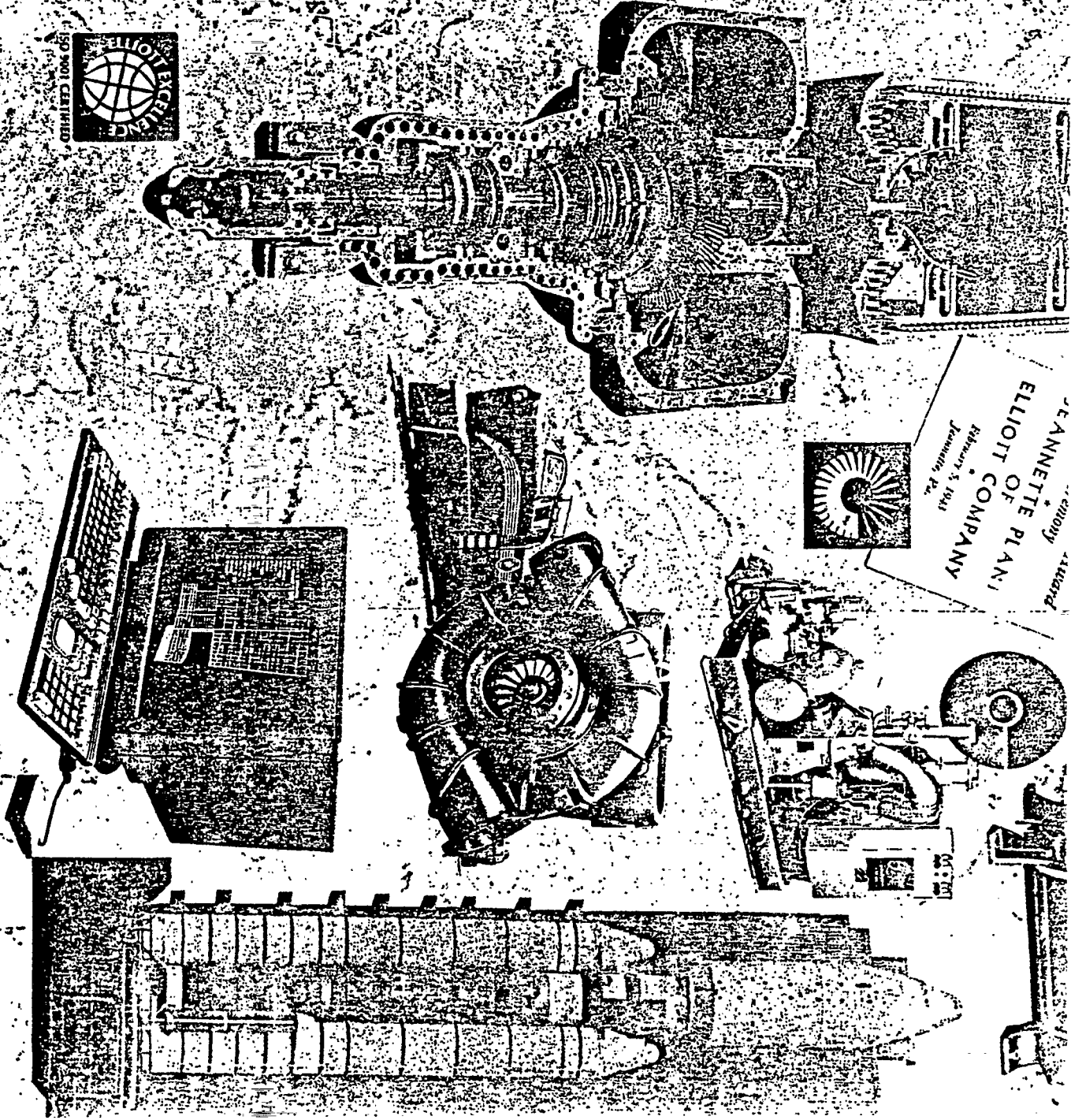
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RIDGWAY DYNAMO & ENGINE CO.



ELLIOTT

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Welcome



JEANETTE PLANI
ELLIOTT COMPANY
February 5, 1991
Jenning, Pa.

ELLIOTT

- 1983 Elliott supports a new U.S. formed joint venture, a major U.S. owned and operated facility in London, England, and a Panamanian subsidiary in Panama.
- 1985 Industrie De Hout, Mexico, a U.S. subsidiary, manufactures Elliott designed equipment.
- 1987 Elliott Acquisition Corporation, a company comprised of Elliott management and outside investors, purchases Elliott Company equipment technologies.
- 1988 Elliott service expands by adding shops in San Francisco, CA; Houston, TX; England and Japan.
- 1989 Elliott and MAN/AG in Mannheim, Germany, sign a fossil-fueled agreement.
- 1989 Elliott enters the "Space Age" through the manufacture and supply of VC mechanical parts for the United States Titan Missile Program.
- 1990 Elliott Service adds shop in Chicago, Illinois.
- 1992 Elliott ships first "Self-Compressor" with magnetic bearings, gas seals and microprocessor for Elliott Dabco System (EDS) microprocessor control system.
- 1992 Elliott Service opens another shop in a Specialized facility.
- 1992 Elliott receives certification as an ISO 9001 manufacturer.
- 1992 Elliott Service opens new shop in Baton Rouge, Louisiana.
- 1992 Elliott acquires ISI, Inc., a manufacturer and repair facility for turbocompressors and fire-fighting compressors.

