

**SULZER BINGHAM
PUMPS INC**

REV	REVISION DESCRIPTION	INIT	APPD	DATE	ECON
-		-	-	-	-
					A-1D184-06

*
STAMP 1 TAG EACH
ITEM NO M2071A SERIAL NO 1D184
M2071B 1D185

PURCHASERS ITEM NO. *

SERIAL NO. *****

SIZE **3X6X9E** TYPE **M5D**

CAPACITY **500 GPM**

HEAD **1882 FT** RPH **3560**

SP. GR. **1.0** TEMP **280°F**

HYDRO TEST **1500 PSIG**

CASE MAMP **2500 PSIG @ 120°F**

THRUST BEARING **5311 BALL**

RADIAL BEARING **3213 BALL**

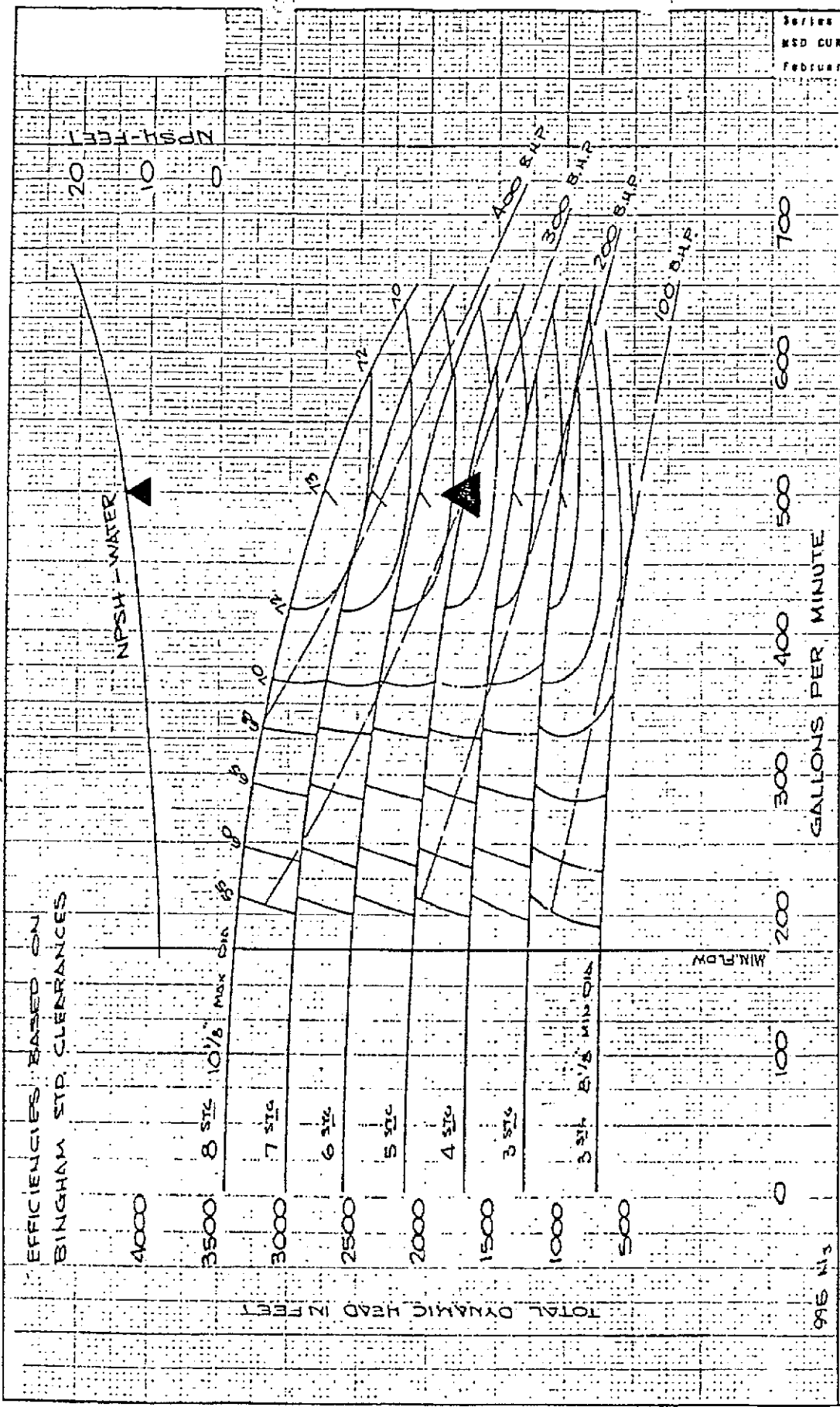
SULZER BINGHAM
PORTLAND, OR
PUMPS INC

CAMBRIDGE, ONT - VANCOUVER, BC

A19483

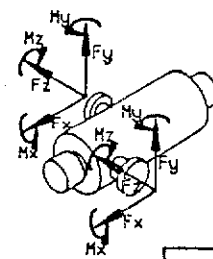
UNLESS OTHERWISE SPECIFIED DIMENSIONS, INCHES				REF. 1104861	NAMEPLATE, STD API 610		REV
LINEAR	.X = 4.12	.XX = 4.02	.XXX = 4.005	ECON	DR	APPD. <i>5/19/89</i>	
ANGULAR	X = 41°	.X = 4.5°	.XX = 4.25°	FIRST	DATE	2/22/89	A-1D184-06
BRK CORNERS .03	FIL. 032R MAX	FIN. 250 RNS/AAAH			SCALE	1:1	CAD

515 6 PM E 1082 (04)
302



ITEM M-20711 A 1/3 24RFQ8009 HSPE, INC. SBPI - 09-626-GM		CHARACTERISTIC CURVE SHEET		3 x 6 x 9 E - MSD		PUMP	
DIA. IMPELLER D-8936		IMPELLER D-8936		REFERENCE 3560 R.P.M.		CURVE NO. MD-56-2	
EYE SQ. AREA 12.0 IN.		E-10477		SUPERIDES MD-56-1		MD-56-2	
<p>Bingham Portland, Ore. Shreveport, La. - Vancouver B.C., Canada</p>							

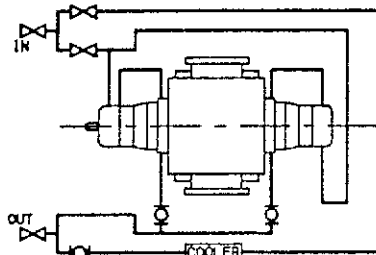
LEGEND			PIPE TAP SIZE
ITEM	▲ PIPE PL	● PIPED BY BINGHAM	■ PROTECTIVE CAP
A	BEARING HOUSING COOLING - INLET	■	3/4
B	BEARING HOUSING COOLING - OUTLET	■	3/4
C	STUFFING BOX COOLING - INLET	●	1/2
D	STUFFING BOX COOLING - OUTLET	●	1/2
E	-	-	-
F	-	-	-
G	-	-	-
H	-	-	-
I	-	-	-
J	OIL DRAIN	▲	3/4
K	PUMP DRAIN	▲	3/4
L	BEARING BRACKET DRAIN	-	1"
M	FLUSHING LIQUID	●	1/2
N	CONSTANT LEVEL OILER	●	1/4
O	OIL INSPECTION HOLE COVER	■	-
P	PUMP VENT	▲	3/4
Q	-	-	-
R	BASE DRAIN	-	1"
S	COOLING WATER CONNECTION - INLET	■	1"
T	COOLING WATER CONNECTION - OUTLET	■	1"



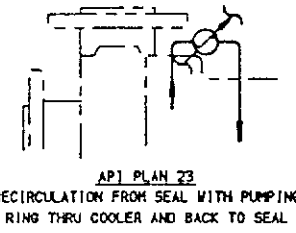
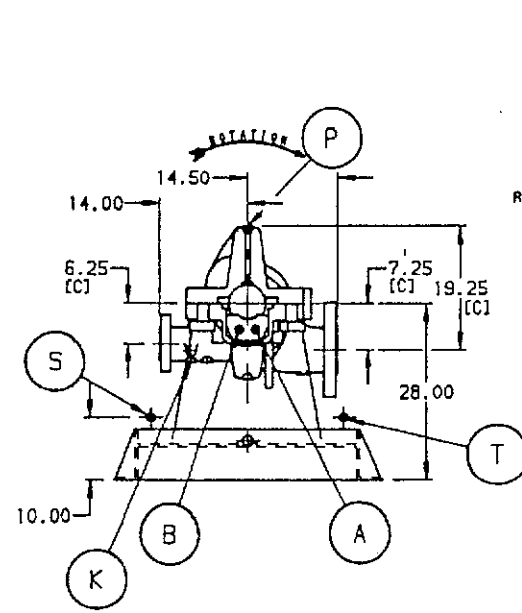
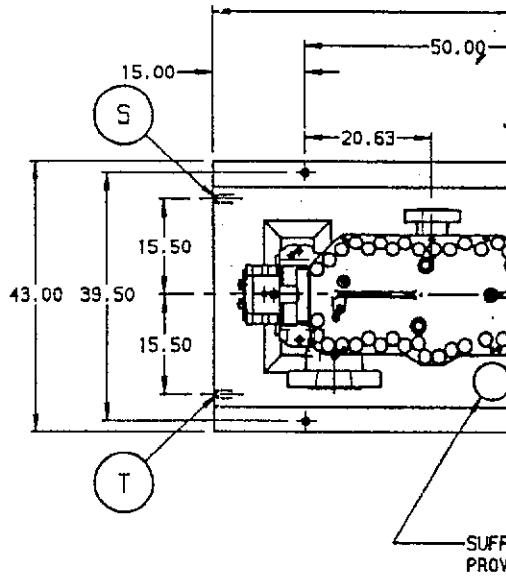
	FORCE IN	
	Fx	Fy
SUCTION	1800	1700
DISCHARGE	800	850

NOTE:

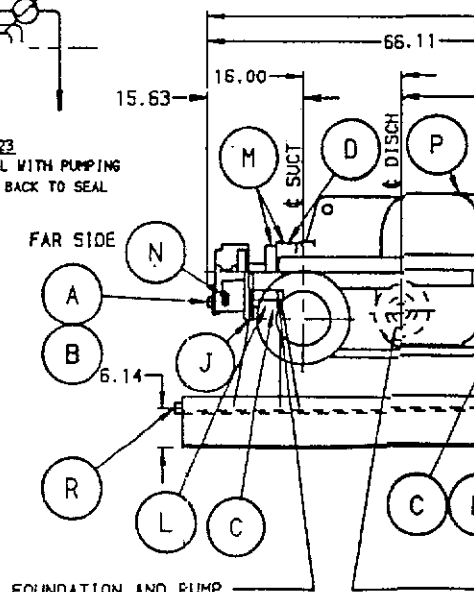
1. SEAL FLUSH - API PLAN 23 PIPED W/ 304 SS TUBE BY SBPI
2. COOLING WATER PIPING - API PLAN K PIPED W/GALV PIPE BY SBPI
3. CUSTOMER AUX PIPING CONNECTION TOLERANCE ± 3.00"



API PLAN K
COOLING TO BEARING HOUSING AND STUFFING BOX JACKET IN SERIES WITH PARALLEL FLOW TO COOLER



API PLAN 23
RECIRCULATION FROM SEAL WITH PUMPING RING THRU COOLER AND BACK TO SEAL



WITH BASE GROUTED TO FOUNDATION AND PUMP FINAL ALIGNED TO DRIVER, POSITION ALIGNING KEYS USING 0.002" THICK SHIM BETWEEN KEY AND FOOT. TIGHTEN BOLT, THEN DRILL AND REAM ALIGNING KEY TO BASE PAD FOR TAPER PINS. REMOVE 0.002" SHIM AFTER REAMING AND BEFORE INSTALLING TAPER PINS.

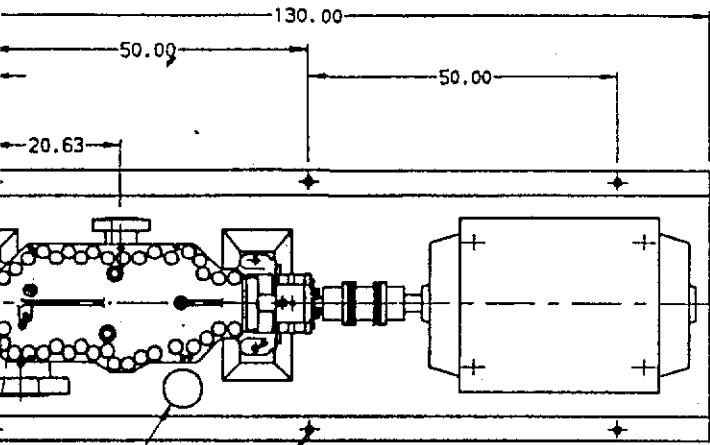
UNLESS OTHERWISE SPECIFIED DIMENSIONS, INCH		
LINEAR,	.X = ±.25 (6)	.XX = ±.12 (3)
ANGULAR,	X. = ±1°	.X = ±.5°
DIMENSIONS IN PARENTESIS ARE IN. MM		

SULZER BINGHAM PUMPS INC

CAUTION!
CAREFULLY CHECK ALIGNMENT BEFORE STARTING UNIT.
ALL HOLES IN FLANGES STRADDLE CENTERLINES.
UNIT SHOULD BE RELIEVED OF EXCESS PIPING STRAINS.

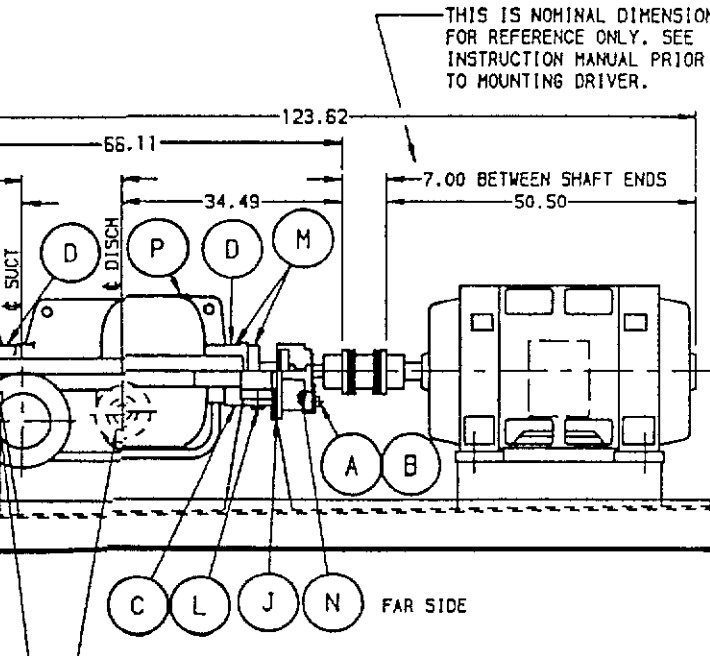
CERTIFIED FOR
 INSTALLATION-FINAL
 PRELIMINARY-MOZZLE AND
 PRELIMINARY - FOR REVIEW

FORCE IN (Lb.)				MOMENTS IN (Lb.-ft.)			
Fx	Fy	Fz	Ft	Mx	My	Mz	Mt
1800	1700	1600	1900	2700	2700	2900	2250
800	950	800	950	700	700	750	840



1-1/4" DIA HOLES FOR 1" DIA ANCHOR BOLT CUSTOMER TO SUPPLY 1" COMMERCIAL HEAVY WASHER (6 LOC)

SUFFICIENT 6.00" DIA GROUT HOLES WILL BE PROVIDED TO COMPLETELY GROUT BASE



NOTE: MINIMUM FLOW BY-PASS AN UNOBSTRUCTED BY-PASS MUST BE PROVIDED FROM THIS DISCHARGE TO THE PRIMARY SUCTION SOURCE TO PERMIT A FLOW OF 175 GPM MINIMUM. CUSTOMER TO PROVIDE FLOW SENSITIVE VALVE TO CLOSE BY-PASS LINE AT DESIGN CAPACITY

500# DRILLING
500# DRILLING

REFERENCE DRAWINGS	

UNIT DATA	
PUMP SPECIFICATIONS	
SIZE (IN) TYPE	3 BY 6 BY 9C HSD
NO. STAGES	3
ROTATION	CCW (AS VIEWED FROM DRIVER)
DISCHARGE FLOW	CLASS 9007 ANSI 10'
SECTION FLOW	CLASS 9007 ANSI 10'
HEAD SEAL	NON TOXIC
TYPE	601-PR CODE: YE101
PACKING	
NO. RINGS	SIZE
ASSEMBLY	

COUPLING	
TYPE	THOMAS
SIZE	71
GUARD	316 V. STEEL BY SPEC

DRIVER SPECIFICATIONS	
MOTOR	GENERAL ELECTRIC
FURNISHED BY	BINGHAM
FRAME	500 L S
HP	350
SPEED	3600 RPM
VOLT	4160
PHASE	3 PHASE
CYCLE	60 CYCLE
RIMM/PRINT	

WEIGHTS	
PUMP	7770
BASE	1850
DRIVER	3200
TOTAL	7620 LBS

P.O. NO.	C-8009-19
SERVICE	HP BOILER FEEDWATER
ITEM NO.	W20711 A/B
PUMP SO. NO.	1D184/5

MOTOR CHARACTERISTICS
5K509EN1128
REFER TO
GE REQUISITION NUMBER
IN CORRESPONDENCE

GENERAL ELECTRIC CO.
MOTOR TECHNOLOGY DEPARTMENT
C&I ENGINEERING
PO BOX 2205
FORT WAYNE IND 46802-2205

DATE 03/16/89

CUSTOMER: SULZER BINGHAM PUMPS INC
2800 NW FRONT AVE
PORTLAND OR

MARKS: TAG ITEM 1: M-20711A & B AND
PART#:1586371

97210

CUSTOMER ORDER NO. 205272 G.E. REQUISITION NO. 68850806
G.E. ORDER NUMBER 890124130

CERTIFIED PRINTS FOR CONSTRUCTION

ITEM NO.	001001	MODEL NO.	5K509EN1128
TYPE	K	FRAME	509LS
HP	350	RPM-FL	3575
PHASE	3/	VOLTS	4160
HZ	60	SERVICE FACTOR	1.15
TIME RATING	CONT	AMB-MAX	40
INSUL CLASS	F	NEMA DESIGN	B
CODE	G	AMPS-FL	44.0
NEMA EFF NOM	--	MAX KVAR	--
BEARING-DE	753C03JP3	BEARING-ODE	753C03JP3
FAMILY CODE	K2029SFF40	DESIGN NUMBER	50TS0138D-2
OUTLINE	50DP2101G001AE		

ENCLOSURE IS WP11

ADDITIONAL MOTOR DATA:

HTR LDS H-H 115V-350W
ROT CCW-ODE LEAD/PH SEQ 3-2-1/1-2-3
SOUND PRESSURE 35 DBA @ 3 FT
2 POLE - FORM COIL - CCW-ODE ROTATION
LEAD/PHASE SEQ - ROTATION ARROW - 115V
SPACE HEATERS TO ACC BOX OPPOSITE MAIN
BOX - 2500 CU IN CONDUIT BOX - GND STUD
IN C/BOX - E/S GND KIT - QUIET CONST

PERFORMANCE CHARACTERISTICS:

OPEN CIRCUIT A-C TIME CONSTANT = 2.139 SEC
SHORT CIRCUIT A-C TIME CONSTANT = .064 SEC
SHORT CIRCUIT D-C TIME CONSTANT = .018 SEC
X/R RATIO 6.813 RADIAN

AMPS (LR)	292.9	TQ (FL) #FT	513.87	PF AT START	0.212	
TQ (LR) % FL	99.93			TQ 3D %FL	239.79	
CONN Y	LOAD %	115	100	75	50	25
EFFX		94.1	94.1	94.1	93.0	89.5
PFX		91.0	91.0	90.0	87.0	72.5
AMPS		49.5	44.0	32.5	22.5	13.5
MAX. LOAD INERTIA AT SHAFT AT 100% V			1094.3	# FT SQ		

NO STARTS IN 3 HOURS 2 COLD/ 1 HOT

***** CONTINUED ON NEXT PAGE *****

ARTS
copy

FORM NO 853-2



SERIAL No. 1D184/5
PUMP TYPE MSD
SIZE 3x6x9E

IDENTIFICATION

ITEM NO. M 20711 A/B

SPECIFICATIONS

SERVICE	BOILER FEEDWATER PUMPS			
PUMPAGE	BOILER FEEDWATER	@	280	°F
		sp gr	1.0	
CAPACITY, gpm	500	HEAD	1882	ft
		SPEED	3560	rpm

EQUIPMENT

STUFFINGBOX PACKED MECHANICAL SEAL PACKINGLESS

VENDOR TYPE JOHN CRANE 8B1

BEARINGS

VENDOR TYPE 5311 THRUST BALL 3213 RADIAL BALL

DRIVER

VENDOR FRAME NO. GENERAL ELECTRIC 509LS hp 350
VENDOR FRAME NO. hp

COUPLING

VENDOR TYPE THOMAS SERIES 71 SIZE 375

(* INDICATES SUPPLIED BY CUSTOMER)

SUPPLEMENT, "DB" ball thrust brg. installation MS

CROSS SECTION B-
BEARING B-

OUTLINE D-1D1
NAMEPLATE DATA A-1D1

SPARE PARTS QUOTE

WITNESS PERFORMANCE TEST CURVE W/DATA (1D185)

ENDOR INFORMATION

MECHANICAL SEAL JOHN CRANE
DRAWING JOHN CRANE CF-SP-7132

COUPLING THOMAS SERI
DRAWING THOMAS

DRIVER GENERAL ELECTRIC GEH-
OUTLINE GENERAL ELECTRIC 50DP2100
CONNECTION DIAGRAM GENERAL ELECTRIC GEM
MOTOR DATA GENERAL ELECTRIC (2 SHEETS) 3,
SPEED TORQUE CAL. GENERAL ELECTRIC 1
TIME VS CURRENT CURVE GENERAL ELECTRIC 50D8
@ 100%, 80%,
NOISE DATA SHEET GENERAL ELECTRIC PAGE 4
CUSTOMER DATA SHEET GENERAL ELECTRIC PAGE 1
EQUIP. LUBRICATION GENERAL ELECTRIC PAGE 1
RENEWAL PARTS LIST GENERAL ELECTRIC 3,

100	2207861	1	CASE VOLUTE ASSEMBLY (HYDRU)
123	2112450	1	GASKET, CASE
135	1039334	12	LOCKPIN
136	1039415	2	LOCKPIN
203	1270664	1	RING, CASE (1ST. STG. SUCTION SIDE)
206	1269887	5	RING, CASE (SERIES - EYE SIDE)
209	1164848	4	STAGE PIECE (SERIES IMPELLER - EYE)
210	1113941	1	STAGE PIECE (CENTER)
215	1165011	1	BUSHING, THROTTLE
218	1266225	2	BUSHING, THROAT
222	1118617	1	RING, IMPELLER (1ST. STG. SUCTION SIDE)
225	1115553	5	RING, IMPELLER (SERIES - EYE)
226	1115596	4	RING, IMPELLER (SERIES - HUB)
232	1119850	1	SLEEVE, SHAFT (CENTER)
233	1165593	1	SLEEVE, SHAFT (THROTTLE)
241	2207863	1	IMPELLER (STAGE 1)

Unnumbered parts in the illustrations are the same as corresponding parts with numbers.

SULZER BINGHAM

242	2207864	1	IMPELLER (STAGE 2)
243	2207865	1	IMPELLER (STAGE 3)
244	2207866	1	IMPELLER (STAGE 4)
245	2207867	1	IMPELLER (STAGE 5)
246	2207868	1	IMPELLER (STAGE 6)
263	1170376	1	SHAFT, PUMP
265	1115855	7	RING, THRUST (IMPELLER & SLEEVE)
272	1692402	1	KEY (1ST STAGE IMPELLER)
273	1138693	1	KEY (THROTTLE SLEEVE)
275	1692402	3	KEY (SERIES IMPELLER)
276	1401718	1	KEY (IMPELLER & CENTER SHAFT SLEEVE)
277	1401696	1	KEY (FINAL IMPELLER)
			----- FASTENERS REQUIRED (NOT ILLUSTRATED) -----
112	1050516	38	STUD (STD. TAP DEPTH)
113	1050532	2	STUD (LONG STD. THRU BOSS)
116	1105639	40	CAPNUT (CASE STUD)

Unnumbered parts in the illustrations are the same as corresponding parts with numbers.

SULZER BINGHAM

118

1105353

40

WASHER (CASE STUDY)

Unnumbered parts in the illustrations are the same as corresponding parts with numbers.

SULZER BINGHAM

63	1170376	1	SHAFT, PUMP
78	1107674	1	KEY (SHAFT EXT.)
81	1105736	1	LOCKNUT (SHAFT EXT.)
102	1340956	1	BEARING HOUSING ASS'Y. (DRIVE END)
104	1340956	1	BEARING HOUSING ASS'Y. (THRUST END)
122	1398067	2	GASKET (OIL COOLER TO BRG. HSG.)
124	1064754	2	SEAL, INNER (OIL COOLER TO HSG.)
125	1337475	1	COOLER, OIL (THRUST END)
126	1337459	1	COOLER, OIL (DRIVE END)
128	1000535	1	NUT, LOCK (BEARING - THRUST END)
129	1000551	1	NUT, LOCK (BEARING - DRIVE END)
132	1002929	1	WASHER, LOCK (BEARING - THRUST END)
133	1002945	1	WASHER, LOCK (BEARING - DRIVE END)
134	1064711	2	PLUG, INSPECTION W/O-RING
135	1763342	2	COVER, BEARING (INBOARD)
136	1065106	1	COVER, BEARING (OUTBOARD - THRUST END)

Unnumbered parts in the illustrations are the same as corresponding parts with numbers.

ULZER BINGHAM

337	1056395	2	O-RING (BRG. COVER SEALING)
340	1065084	2	RING, OIL
343	1064916	1	SLEEVE, OIL RING MOUNTING (THRUST EN
344	1065076	1	SLEEVE, OIL RING MOUNTING (DRIVE END
345	1063642	1	BEARING, BALL (THRUST END)
346	1061135	1	BEARING, BALL (DRIVE END)
348	1507206	2	OILER, TRICO NO. 5 (8 OZ.)
361	1065041	2	DEFLECTOR DISC (INBOARD)
362	1065092	1	DEFLECTOR DISC (OUTBOARD - DRIVE END
381			PLATE, COVER (NOT SHOWN) USE WITHOUT COOLING COILS
			FASTENERS REQUIRED (NOT ILLUSTRATED)
282	1029495	2	SETSCREW (LOCKNUT, SHAFT EXT.)
308	1013580	2	PLUG, PIPE (OIL DRAIN - BRG. HSG.)
309	1013556	2	PLUG, PIPE (OIL CONNECTION - BRG. HS
310	1013572	2	PLUG, PIPE - EDISON DETECTOR
313	1025872	8	CAPSCREW (BRG. HSG. TO PUMP)

Unnumbered parts in the illustrations are the same as corresponding parts with numbers.

SULZER BINGHAM

314	1019503	14	CAPSCREW (OIL COOLER TO BRG. HSG.)
315	1019996	12	CAPSCREW (BRG. COVER TO HSG.)
319	1046063	4	PIN, TAPER (BRG. HSG. TO PUMP)
349	1032011	2	NIPPLE, PIPE (OILER TO BRG. HSG.)
365	1029274	3	SETSCREW (DEFLECTOR)

Unnumbered parts in the illustrations are the same as corresponding parts with numbers.

ULZER BINGHAM

SULZER BINGHAM

2800 N.W. FRONT AVENUE
PORTLAND, OREGON 97210

FORM NO. 1007-1

PG. OF PGS. 1		PARTS QUOTATION NO. 91329	
CUSTOMER INQUIRY NO.			
OFFICE 009	DATE 07 19		
TERMS NET 30 DAY			
FROM ^{DELIVERY WEEKS} 8 TO 10			
THIS QUOTATION FIRM FOR: 30 DAYS			

PARTS QUOTATION
NOT AN INVOICE

Domestic Shipment - U.S.A.

S/N 1D184/185	SIZE/TYPE 3.000 x 6.000 x 9.000 E MSD	BY ML/HW
X-SECT. B-41318	STGS. 6 ROT. CCW RPM. 3560	

ITEM	QTY. ORD.	DESCRIPTION	PART NUMBER	UNIT PRICE	NET AMOUNT	WT. LB. EACH
			MATERIAL			
1	1	-GROUP, RECOMMENDED SPARES		.00	.00	
2	1	123 -GASKET, CASE	0570 G03709-41 2112450	19.00	19.00	
3	1	203 -RING, CASING	62XX A31627 1270664	365.00	365.00	29
4	5	206 -RING, CASING	62XX A30257 1269887	323.00	1615.00	22
5	4	209 -STAGE PIECE	62XX B12855 1164848	357.00	1428.00	10
6	1	210 -STAGE PIECE	62XX D18916-01 1113941	948.00	948.00	42
7	1	215 -BUSHING, THROTTLE	62XX B33939-07 1165011	290.00	290.00	23
8	2	218 -BUSHING, THROAT	62XX A50850 1266225	237.00	474.00	10

SULZER BINGHAM

TOTAL

BY _____ DATE _____

SULZER BINGHAM

2800 N.W. FRONT AVENUE
PORTLAND, OREGON 97210

FORM NO. 1087-1

PG. OF PGS. 2		PARTS QUOTATION NO. 91329	
CUSTOMER INQUIRY NO.			
OFFICE 009	DATE 07/19/11		
TERMS NET 30 DAY			
FROM DELIVERED WEEKS 8 TO 10			
THIS QUOTATION FIRM FOR: 30 DAYS			

PARTS QUOTATION
NOT AN INVOICE

Domestic Shipment - U.S.A.

S/N 1D184/185 SIZE/TYPE 6.611 x .000 x .000 E MSD
X-SECT. B-41318 STGS. 6 ROT. CCW RPM. 3560

BY ML/MW

ITEM	QTY. ORD.	DESCRIPTION	PART NUMBER	UNIT PRICE	NET AMOUNT	WT. LB. EACH
			MATERIAL			
9	1	222 -RING, IMPELLER	6660 A32471 1118617	451.00	451.00	29
10	5	225 -RING, IMPELLER	6660 A30259 1115553	421.00	2105.00	22
11	4	226 -RING, IMPELLER	6660 A30260 1115596	394.00	1576.00	14
12	1	232 -SHAFT SLEEVE, CENTER	6660 B33912-01 1119850	580.00	580.00	20
13	1	233 -SLEEVE, THROTTLE	6660 B33906-07 1165593	580.00	580.00	20
14	7	265 -RING, THRUST	6XXX A30511 1115855	161.00	1127.00	
15	2	322 -GASKET	0569 B28909 1398067	4.00	8.00	
16	1	328 -LOCKNUT, BEARING N-11	4910 N12081 1000535	4.00	4.00	

SULZER BINGHAM

TOTAL

BY _____

DATE _____

SULZER BINGHAM

2800 N.W. FRONT AVENUE
PORTLAND, OREGON 97210

FORM NO. 1887-1

PG. OF PGS. 3		PARTS QUOTATION NO. 91329	
CUSTOMER INQUIRY NO.			
OFFICE 009	DATE 07/19/		
TERMS NET 30 DAY			
FROM ^{DELIVERY} 8 TO 10 ^{WEEKS}			
THIS QUOTATION FIRM FOR: 30 DAYS			

PARTS QUOTATION
NOT AN INVOICE

Domestic Shipment - U.S.A.

S/N 1D184/185	SIZE/TYPE .000 x .000 x .000 E MSD			BY ML/MW
X-SECT. B-41318	STGS. 6	ROT. CCW	RPM. 3560	

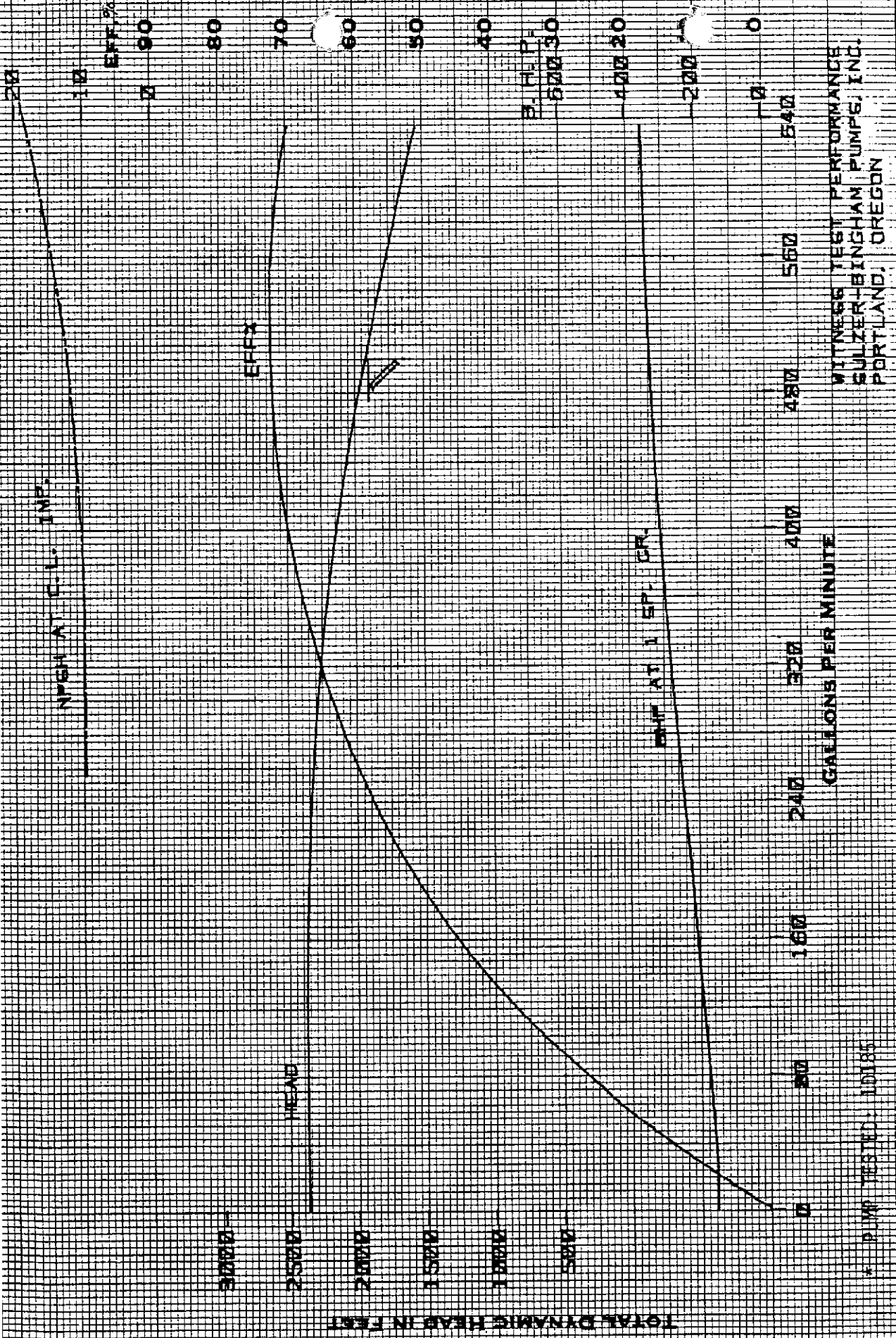
ITEM	QTY. ORD.	DESCRIPTION	PART NUMBER		UNIT PRICE	NET AMOUNT	WT. LB. EACH
			MATERIAL				
17	1	332 -LOCKWASHER, BEARING W-11	4910 N11837	1002929	1.00	1.00	
18	1	333 -LOCKWASHER, BEARING W-13	4910 N12085	1002945	1.00	1.00	
19	2	337 -O-RING	0554 N10077	1056395	2.00	4.00	
20	1	345 -BEARING, DOUBLE ROW	0000	1063642	98.00	98.00	
21	1	346 -BALL BEARING, 3213	0000 N20006	1061135	44.00	44.00	
22	2	401 -MECHANICAL SEAL, COMPLETE	2250912		2629.00	5258.00	
23	4	482 -O-RING	0554 N10047	1056220	1.00	4.00	

SULZER BINGHAM

BY *Mary S. Uffinger*

DATE *7-20-89*

TOTAL 16980.00



HAWKER SIDDELEY POWER ENGINEERING BOILER FEEDWATER PUMP PO# C-8009-19 ITEM# M2071B PUMP# 10184/5 *	PUMP ENGINEERING DEPT. SULZER BINGHAM PUMPS INC. 7/28/89 TW	IMPELLER MAX. DIA. 10.13"	3*6*9E MSD 6-STG PUMP
		MIN. DIA. B. 13"	IMPELLER PART 31MSD-8 <small>31MSD-8-100 & 31MSD-8-120</small>
		DIA. EYE 12"	REFERENCE CURVE No. 46613
		AREA 12" IN.	
		N.P.S.H. REQUIRED 15'	

HYDRAULIC TEST DATA SHEET

FORM NO. 930-4A PUMP TESTED
 PUMP SIZE & TYPE **3x6x9E MSD** PUMP TESTED
 STGS. **6** 1D185

PURCHASE ORDER NO: **C-8009-19** CUSTOMER ITEM NO: **M2071R**
 R.P.M. **3560** T.D. HEAD **1882** G.P.M. **500** EFF. **72.5** SP. GR. **1.000** EYE DIA. **4.625** EYE AREA **12** DISCH. PIPE I.D. SUCT. PIPE I.D. **2.3000 6.0650** TESTED BY **KB/TW** DATE **7/28/89** START **8:50 AM** STOP **9:22 AM**
 FIELD **3560** **1882** **500** **72.5** **1.000** **4.625** **12** **2.3000** **6.0650** **KB/TW** **7/28/89** **8:50 AM** **9:22 AM**

TEST MOTOR: **HM-21-3600** REMARKS: ***TRIM AFTER TEST: 9.57 IN. DIA.**
 VARS **4** IMP. TEST DIA. * **9.78"**
 IMP. PATTERN **313MSD-6** IMP. TEST DIA. **9.78"**

SPEED R.P.M.	CAPACITY		HV GAGE TO 1000 ELEV. G.P.M.	DISCHARGE	SUCTION		TOTAL DYNAMIC HEAD IN FEET OF WATER	POWER		PUMP EFF %	CORRECTED TO CONSTANT SPEED (TRIM AFTER TEST) 3560			VIBRATION TRANSDUCER AT SHAFT	
	METER A6-4" VENT	IN. HG.			IN. HG.	FEET OF WATER		FEET OF WATER	WATTS READ		B.H.P. OUT	G.P.M.	T.D.H.		B.H.P.
1	3594	0.00	0.0	1112	2568.7	26.2	2542.5	168	168.4	0.0	0.0	2368.4	151.4	151.4	
2	3593	0.90	172.8	1107	2556.0	29.3	2529.4	232	235.5	46.9	166.8	2357.5	211.9	211.9	
3	3591	3.60	345.5	1041	2404.7	27.8	2387.8	308	314.7	66.2	333.7	2227.9	283.6	283.6	
4	3589	7.65	503.7	898	2074.4	26.6	2070.8	356	364.5	72.3	486.8	1934.3	329.0	329.0	
5	3589	9.05	547.8	845	1952.0	25.8	1953.4	365	373.7	72.3	529.5	1824.7	337.4	337.4	
6	3589	13.00	656.6	699	1613.5	24.8	1627.9	380	389.2	69.3	634.6	1520.6	351.4	351.4	
7															
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24															
25															

WITNESSED BY: *Steve Johnston*
 CERTIFIED BY: *Tom W...*
 WITNESS TEST PERFORMANCE SULZER-BINGHAM PUMPS, INC. PORTLAND, OREGON DATED: 7/28/89 SEE CURVES 46613

TO NEAREST
OBSTRUCTION

1/2 N.P.T. (1X) *
INLET FOR HEAT
EXCHANGER LOC
ON TOP VERT. &
MARK F
1/2 N.P.T. (2X) LOC
15" ABOVE HORIZ
& MARK G

3/4 D.
STUDS (4X)
90° C.C. ON A
6-3/4 D.B.C.

8"
GLAND
O.D.

3.758 D.
±.002
BORE

2.635 D.
+.000
-.005
SHAFT

2.875 D.
±.002
SLEEVE

.040 LG. x 20° CHAM.

	D	2875	204	9200	MATING RING	1	TUNG. CARB.	X
		0000	240	9549	O RING	1	VITON OREQ.	X
3	A8	3125	038	9012	PRIMARY RING	1	CARBON	X
4	*	0000	235	9549	O RING	1	VITON OREQ.	X
5	A9	3125	044	0550	RETAINER	1	316 SS	
6	*	0812			SPRING	12	316 SS	
7	A9	3125	013	0550	DISC	1	316 SS	
8	A9	3125	038	0550	SNAP RING	1	316 SS	
9	A8	3125	035	7500	ANTI-X-RING	1	CHEMLON	
10	F	2625	863	0500	SLEEVE	1	18-8 SS	
11		0000	231	9549	O RING	1	VITON OREQ.	
12	D	2625	437	0550	COLLAR	1	18-8 SS	
13		5/16-24 X 1/2 LG. 1731-2408-000		0225	SET SCREW	12	HARDENED STL.	
14	F	2875	596	7820	GLAND PLATE	1	CARB STL / BRZ	
15		1/4 X 1/4 X 1/2 LG. 0250-0250-0500		0650	DRIVE KEY	2	416 SS	
16	D	2875	104	7341	SPACER	1	555	
17		0000	251	9549	O RING	1	VITON OREQ.	
18	D	3250	887	0500	PUMP RING	1	18-8 SS	
19		10-32 X 7/16 LG. 1110-3207-000		0500	SET SCREW	4	18-8 SS	
20	BY	BINGHAM			LINER			

J.J

** BOX PRESS : 25 PSIG
SUCT. PRESS : 0 PSIG
DISCH. PRESS : 815 PSIG

API PLAN 23E

OPERATING CONDITIONS:

LIQUID BOILER FEED WATER

SP GR	SPEED	TEMP.	PRESS.
1.0	3600 RPM	280°F	**

CODE:

X | P66 | 1 | D | 1 (316 SS)

SEAL ASSY No AB-3125-051

* PART OF ASSEM
+ SPECIAL PART

MATING RING ASSY No

B/P REF. H-SP-2011 DT'D. 12-19-75 BY C.P.CO.

H-4562-01 SULZER BINGHAM

MSD S/N: 10184

20J NO.: C-8009-19

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STD APP

DR APP

DR APP

DR APP

CH APP

CH APP

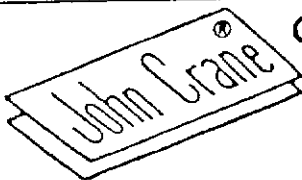
APP

DATE

SCALE NONE

TYPE-8BI-BF
3.125 D. PACKAGE SHAFT SEAL
FOR 2.635 DIA. SHAFT
SULZER BINGHAM PUMPS INC.
PORTLAND, OREGON

DWG No CF-SP-71321-120



CRANE PACKING

6400 W OAKTON ST
MORTON GROVE, ILL