DATE 13 Apr 2000

PWSID 04-67-047

WELL # 47

WELL NAME Courthouse Bay 47

BLDG. BB47

CODE Ground

AVAILABILITY Permanent

LOCATION Horn Road CHB

LATITUDE 34° 34 min 56.087 N

LONGITUDE 077° 21 min 47.058 W

WELL DIAMETER 8"

WELL DEPTH 200'

SCREEN INTERVAL ~~0 to 32'~~ 8" pipe
32' to 62' 8" screen

YIELD 294 gpm

STATIC LEVEL 10'

PUMPING LEVEL 25'

PUMP TYPE vertical turbine

MOTOR HP 10

INTAKE DEPTH

DESIGN CAPACITY 250 gpm

ACTUAL GPM 251 gpm

SIZE OF CONCRETE SLAB 14 x 16

HEIGHT OF CASING 50'

Mr Price

this info came from Public Works

I'll check on Manuel with Maint.

Bob Wilson

WELL NUMBER BB47 BY SALAS DATE 4-17-07

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
67	27	12	05	62	104	55
		15	08	50	162	05
		17	10	40	192	15
		19	12	30	214	25
		19	12	25	224	35
		19	120	20	235	45
	SOT @ 27	19	12	10	254	55
		22	15	05	263	05

REMARKS D/H-75

NOTE: ADJUSTED packing
: cleaned glass from FT & pressure gauge

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

Sheet 1

Marine Barracks
New River, N. C.
March 25, 1942

Well: Permanent Water Supply at Balloon Barrage

By Layne Atlantic Company

Report on Well No. 1 or Well V at Balloon Barrage

Location: 65 feet east of center line of New Access Road to Balloon Barrage at Station 2350.

Date Drilled: March 1942

Status: Ground elevation 17.79
A 17½" hole drilled to a depth of 32 feet. This was reamed to 23 inches in diameter to a depth of 30 feet. 29 feet of 18 inch I.D. Steel caseing set and the anular space around pipe filled with cement grout to ground level. A 17 inch hole was then drilled to a depth of 69 feet.

Log of Formation:

0 to 1'6"	Black top soil
1'6" to 31'	Very fine yellow sand, (Funs bad)
31' to 69'	Soft shell rock and sand in layers

Due to the sand mixed with the coguina rock, it was necessary to construct a well of gravel wall construction.

Gravel Wall Construction: 32 feet of 8 inch pipe and 30 feet of silician bronze shutter screen with cement plug was lowered into the well. The anular space around this was filled with a special ¼ inch gravel.

Log of Screen setting:

0 to 32'	8" Pipe
32' to 62'	8" Screen

Static Water Level: 10 feet from surface

Pumping: Well pumps 460 G.P.M. with a 45 foot draw down below static level, after 40 hours pumping. This is approximately 10.2 gallons per foot of draw down. Pumps 350 gallons per minute with a 35 foot draw down from static level. This is approximately 10 gallons per foot of draw down.

Further pumping test will be made after the deep well turbin pumps are set.

See separate report for chemical analysis.

N. H. Kellam
Asst. Chem. Eng.

FORM A-4
(JUNE '66)

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
OFFICE OF WATER DATA COORDINATION
INVENTORY OF HYDROLOGIC DATA STATIONS
QUALITY OF WATER

APPROVED.
Budget Bureau No. 42-R1485
Approval Expires June 30, 1968

1. AGENCY CODE	2. TYPE	3. LATITUDE	4. LONGITUDE	5.
MC	Q	° ' " N: 34 34 27	° ' " W: 77 21 05	

6. AGENCY STATION NO.	7. STATION NAME
BB97	BB97-X

8. DRAINAGE BASIN CODE No.	Letter	9. STATE CODE	10. COUNTY CODE	11. COUNTY NAME
6	N	32	133	ONSLOW

12. PERIOD OF RECORD Began	Discontinued	Y ☐ Continuous Interruption Exceeds 1 Year	13.	14.
1965				

15. SITE

- ☐ 101 Stream
- ☐ 102 Canal
- ☐ 103 Lake
- ☐ 104 Reservoir
- ☐ 105 Estuary
- ☐ 106 Spring
- ☒ 107 Well
- ☐ 110 Other

16. FREQUENCY OF MEASUREMENT

- ☐ 201 Continuous Recorder
- ☐ 202 Telemetered
- ☐ 203 Daily
- ☐ 204 Weekly
- ☐ 205 Monthly
- ☐ 206 Quarterly
- ☐ 207 Seasonal
- ☐ 208 Annual
- ☐ 209 Other Periodic
- ☒ 210 Occasional

17. TYPES OF DATA AVAILABLE

Physical
- ☐ 311 Temperature
- ☐ 312 Specific Conductance
- ☐ 313 Turbidity
- ☐ 314 Color
- ☐ 315 Odor
- ☐ 316 Radioactivity
- ☐ 317 pH (field)
- ☒ 318 pH (lab)
- ☐ 319 Eh
- ☐ 320 Other

Chemical
- ☐ 331 Dissolved solids
- ☒ 332 Chlorides Only
- ☐ 333 Nutrients (Nitrogen and phosphorus compounds)
- ☐ 334 Common ions
- ☒ 335 Hardness
- ☐ 336 Radiochemical
- ☐ 337 Dissolved oxygen
- ☐ 338 Other Gases
- ☐ 339 Other

Organic
- ☐ 351 Pesticides (insecticides, herbicides, etc.)
- ☐ 352 Synthetic detergents
- ☐ 353 Other

Biologic
- ☐ 361 Coliforms
- ☐ 362 Other Micro-organisms
- ☐ 363 BOD
- ☐ 364 Other

Sediment
- ☐ 371 Concentration
- ☐ 372 Particle size
- ☐ 373 Other

18. SUPPLEMENTARY DATA FOR SITE

- ☐ 421 Surface Water Station
- ☐ 422 Ground Water Station
- ☐ 423 Water Stage or Level
- ☒ 424 Water discharge
- ☐ 425 Time of Travel
- ☐ 426 Drainage Area

19. STORAGE OF DATA

- ☐ 501 Periodic Report
- ☐ 502 Areal Report
- ☒ 503 Not Published
- ☐ 504 Data on Punchcard
- ☐ 505 Data on Magnetic Tape
- ☐ 506 Other

20. OFFICE AT WHICH DATA AVAILABLE

Office BASE MAINTENANCE DEPARTMENT, UTILITIES DIVISION

Street No. MARINE CORPS BASE

City, State, Zip CAMP LEJEUNE, N. C. 28542

City Code 0735

21. OFFICE COMPLETING FORM

BASE MAINTENANCE DEPARTMENT

22. COMPILER'S NAME

F. E. TEW, JR.

23. DATE Month 09 Year 19 66

WELL NUMBER BB-47 BY Stevenson & King DATE 2-8-99

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
67	67	10	3	65	108	35
		12	5	55	170	45
		13	6	45	195	55
		14	7	40	210	65
		15	8	35	221	15
		15	8	30	235	25
		16	9	25	244	40
		17	10	20	256	50

REMARKS

D/H 74 PSI

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

Well No.	STATIC	DRAWDOWN NOV. 1966
160	25 Ft.	17 Ft.
109	34 Ft.	20 Ft.
43	32 Ft.	20 Ft.
227		9 Ft.
47		4 Ft.

COURTHOUSE BAY BLDG. BB-190

CAPACITY 600,000 GPD

WITH 4 DEEP WELLS

ZEOLITE SOFTENING PLANT

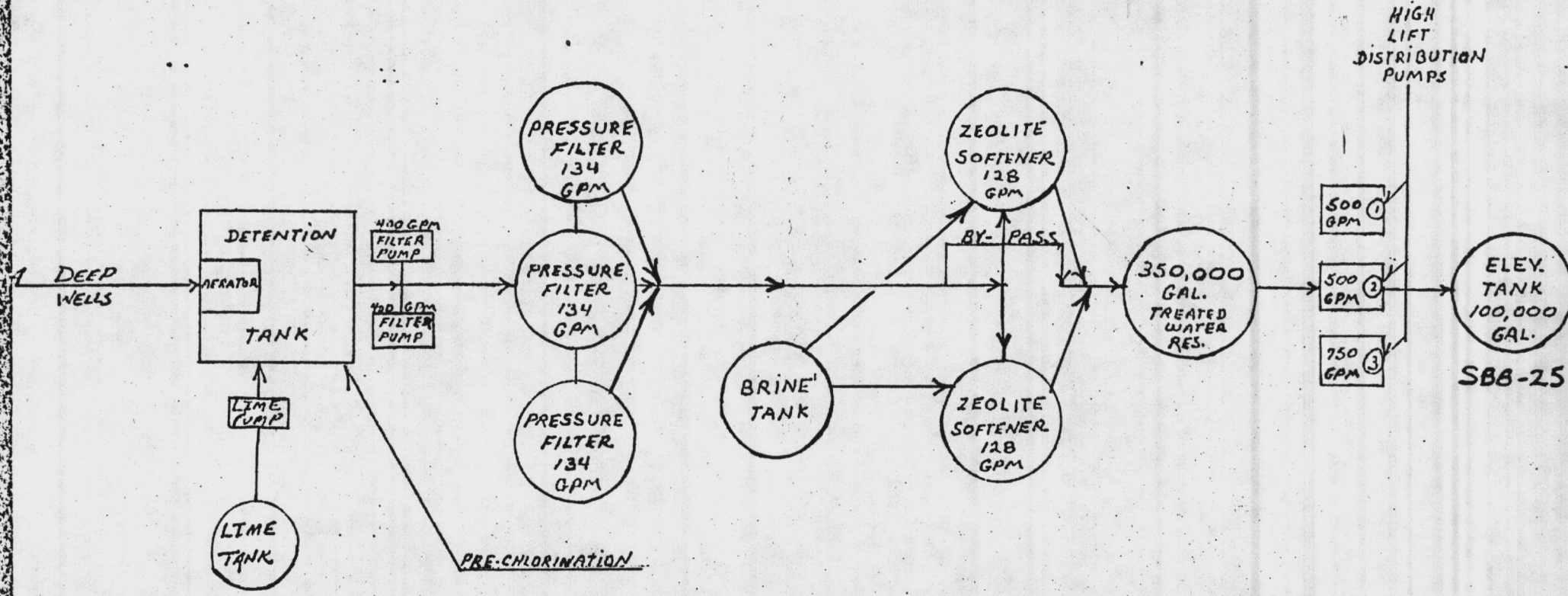


Table III C 3

WELL SURVEY SHEET

Sheet No. 10 DATE: 20 JUNE 1984

WELL NO.	WELL TYPE	DRILLED DEPTH ft.	STATIC LEVEL (ft)	CASING SIZE (in.)	STAGES	DRAWDOWN AT RATED CAPACITY (feet	RATED CAPACITY (gpm)	PRESENT CAPACITY (gpm)
BB-43	DRILLED	54'	18'	8"	4	19'	175	100
BB-44	DRILLED	63'	24'	8"	4	10'	200	100
BB-220	DRILLED	63'	34'	8"	3	6'	150	150
BB-221	DRILLED	65'	35'	6"	3	8'	300	300
A-5	DRILLED	116'	18'	8"	4	14'	250	150

WELL NO.	SPECIFIC CAPACITY (gpm/ft of drawdown)	PUMP HEAD (ft)	MOTOR H. P.	CHLORINATION (AMOUNT)	RESIDUAL CHLORINE (TYPE)	AUXILIARY POWER (TYPE)	DD FORM 710	DD FORM 636
BB-43	9.2	63'	5.0			GASOLINE		
BB-44	20.0	60'	5.0					
BB-220	25.0	78'	7.5					
BB-221	31.5	82"	15.0					
A-5	17.9	75'	3.0	5 lbs per day	0.6	GASOLINE		

may 1962

	Static	Draw Down
47	4 ft.	0 ft
227	12 ft.	0 ft
45	31 ft.	24 ft
43	15 ft.	20 ft
44	4 ft	18 ft
109	16 ft	22 ft
110	15 ft	25 ft.

April 1962

	Static	Draw Down
47	3 ft.	0
227	15 ft.	2 ft.
45	32 ft.	25 ft.
43	33 ft.	18 ft.
110	15 ft.	26 ft.
109	17 ft.	23 ft
44	4 ft.	18 ft.

Jan. 1952

STATIC Reading DOWN DOWN.

45 - 33 ft.	44 - 2 ft
227 16 ft	43 - 17 ft.
43 33 ft	227 2 ft
110 15 ft.	47 - 26 ft.
107 16 ft	110 - 38 ft
47 4 ft.	45 - 26 ft.

7-24-62

Well 45 lb pres	D.D.	SPM
49	28	151
55	29	128
40	26	172

Well 47		
51	0	222
55	4 ft	201
60	4 ft	172
45 Sand	0 ft	260

Well 227		
56	7 ft	175
60	6	162
50	5	190
45	4	201

April 1963

	STATIC	DRAW DOWN
47	18ft.	7ft.
45	38ft.	12ft.
227	22ft.	10ft.
43	32ft	9ft
110	28ft.	38ft
109	26ft	28ft

Get.
Pencil. Paper

PRODUCT FACTS

JOHNS-MANVILLE

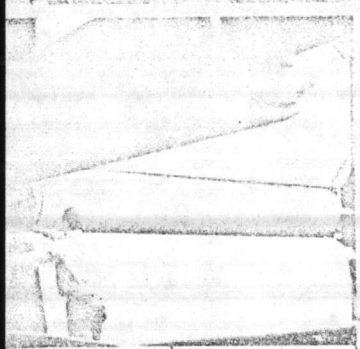
TRANSITE* RING-TITE® WATER PIPE

*TRANSITE is Johns-Manville's registered trademark for its brand of asbestos-cement products.

For Supply Lines and Distribution Systems Carrying Water Under Pressure

RESEARCH, MATERIALS & MANUFACTURE

Constant research in one of the world's largest laboratories — controlled blending of basic raw materials (asbestos fibers, cement and silica) — modern manufacturing techniques and autoclave-curing — produce a uniformly finished, homogeneous pipe which combines (1) inherent strength (2) density (3) maximum corrosion resistance and (4) long life expectancy. Meets the standard requirements of water service pipe.



SIZES AND WEIGHTS

PIPE SIZE INCHES	CLASS 100 PIPE WGT LBS PER FT*	CLASS 100 CPLG WGT EACH
3	5.1	5.6
4	6.1	6.6
6	11.1	10.6
8	16.5	13.5
10	22.2	15.9
12	31.1	24.0
14	39.2	37.1
16	50.0	45.6
18	66.3	68.3
20	80.5	77.8
24	112.5	106.0
30	172.7	183.4
36	242.6	257.4

	CLASS 150 PIPE WGT LBS PER FT*	CLASS 150 CPLG WGT EACH
3	5.6	5.7
4	7.2	7.4
6	12.3	11.3
8	18.7	17.5
10	29.9	26.8
12	41.0	41.5
14	55.0	64.2
16	68.3	81.0
18	90.9	100.8
20	111.1	116.8
24	158.5	159.5
30	248.6	276.6
36	356.4	389.5

	CLASS 200 PIPE WGT LBS PER FT*	CLASS 200 CPLG WGT EACH
3	6.1	5.7
4	8.8	7.4
6	14.5	12.4
8	22.2	18.9
10	34.5	28.9
12	48.2	46.8
14	64.7	72.7
16	83.7	91.8
18	129.5	147.4
20	160.0	178.9
24	228.7	252.6
30	359.1	436.6
36	516.3	618.1

*Includes pipe, coupling and rings.

STANDARD LENGTHS (NOMINAL)

PIPE SIZES	STANDARD LENGTHS
3"	10'
4" & 6"	10' and 13'
8" thru 36"	13'

PIPE AND COUPLING DIMENSIONS (INCHES)

Class 100

Pipe Size in.	D	D_2	D_3	D_6	D_7*	D_8	D_9*	L
3	3.00	3.74	3.90	4.48	5.48	3.86	4.00	7.00
4	4.00	4.64	4.80	5.38	6.38	4.76	4.92	7.00
6	6.00	6.91	7.07	7.65	8.85	7.03	7.19	7.00
8	8.00	9.11	9.27	9.85	11.05	9.23	9.39	7.00
10	10.00	11.24	11.40	11.98	13.25	11.36	11.47	7.00
12	12.00	13.44	13.60	14.18	15.70	13.56	13.74	8.00
14	13.59	15.07	15.23	15.95	17.59	15.20	15.51	9.00
16	15.50	17.15	17.31	18.03	19.86	17.28	17.65	9.00
18	18.00	19.90	20.06	20.78	23.01	20.03	20.44	10.00
20	20.00	22.12	22.28	23.00	25.32	22.25	22.68	10.00
24	24.00	26.48	26.64	27.36	30.10	26.61	27.12	10.00
30	30.00	33.12	33.28	34.02	37.63	33.27	33.80	11.00
36	36.00	39.78	39.94	40.68	44.92	39.93	40.46	11.00

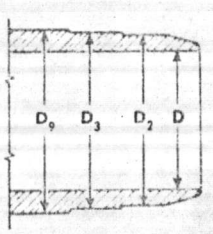
Class 150

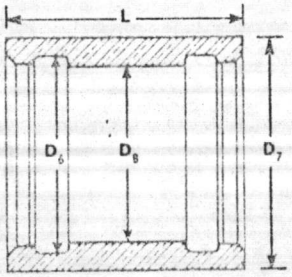
Pipe Size In.	D	D_2	D_3	D_6	D_7*	D_8	D_9*	L
3	3.00	3.84	4.00	4.58	5.59	3.96	4.10	7.00
4	4.00	4.81	4.97	5.55	6.67	4.93	5.07	7.00
6	5.85	6.91	7.07	7.65	8.96	7.03	7.17	7.00
8	7.85	9.11	9.27	9.85	11.52	9.23	9.37	7.00
10	10.00	11.66	11.82	12.40	14.51	11.78	11.92	7.00
12	12.00	13.92	14.08	14.66	17.15	14.04	14.18	8.00
14	14.00	16.22	16.38	17.10	20.00	16.35	16.48	9.00
16	16.00	18.46	18.62	19.34	22.64	18.59	18.72	9.00
18	18.00	20.94	21.10	21.82	25.12	21.07	21.30	10.00
20	20.00	23.28	23.44	24.16	27.65	23.41	23.64	10.00
24	24.00	27.96	28.12	28.84	32.92	28.09	28.32	10.00
30	30.00	35.00	35.16	35.90	41.20	35.15	35.42	11.00
36	36.00	42.04	42.20	42.94	49.28	42.19	42.46	11.00

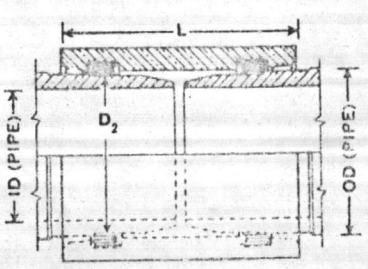
Class 200

Pipe Size In.	D	D_2	D_3	D_6	D_7*	D_8	D_9*	L
3	3.00	3.84	4.00	4.58	5.59	3.96	4.23	7.00
4	4.00	4.81	4.97	5.55	6.67	4.93	5.33	7.00
6	5.70	6.91	7.07	7.65	9.10	7.03	7.32	7.00
8	7.60	9.11	9.27	9.85	11.66	9.23	9.50	7.00
10	9.63	11.66	11.82	12.40	14.69	11.78	11.92	7.00
12	11.56	13.92	14.08	14.66	17.48	14.04	14.18	8.00
14	13.59	16.22	16.38	17.10	20.42	16.35	16.59	9.00
16	15.50	18.46	18.62	19.34	23.11	18.59	18.90	9.00
18	18.00	22.18	22.34	23.06	27.73	22.31	22.54	10.00
20	20.00	24.66	24.82	25.54	30.71	24.79	25.02	10.00
24	24.00	29.62	29.78	30.50	36.71	29.75	29.98	10.00
30	30.00	37.06	37.22	37.96	45.92	37.21	37.48	11.00
36	36.00	44.52	44.68	45.42	54.94	44.67	44.94	11.00

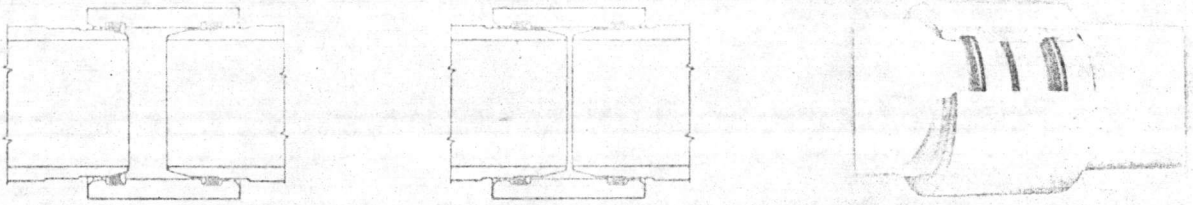
*Subject to manufacturing tolerances







COUPLING AND JOINT. Precision machined coupling with rubber sealing rings and matching pipe ends form push-on-type joint which self-positions, locks the assembly in place and assures that each link in the line provides maximum tightness, optimum flexibility and resilience to withstand shock, vibration and line stress.



CUT-AWAY VIEWS OF JOINT ASSEMBLY. FACTORY-APPLIED COUPLING ON ONE END OF PIPE

DESIGN DATA

HYDROSTATIC STRENGTH

Each standard, random and short length of Transite water pipe is designed to have sufficient strength to withstand an internal hydrostatic pressure listed in the table below.

ROUTINE HYDROSTATIC PRESSURE, PSI (5 second dwell)	CLASS	100	150	200
	TEST PRESSURE	350	525	700

SAMPLING* HYDROSTATIC TEST PRESSURE, PSI (5 second dwell)	CLASS	100	150	200
	TEST PRESSURE	400	600	800

*One standard length in every 300 is tested to pressures shown and then retested to routine pressure.

FLEXURAL STRENGTH

Each standard length of Transite water pipe in sizes 3, 4, 6 and 8 inches has sufficient strength to withstand, without failure, total loads listed in table above, right, when applied at the third points of a clear span at a minimum rate at least 500 lbs. per second maintained for five seconds. "Clear span being 9 feet on the 10-ft. lengths and 12 feet on the 13-ft. lengths."

FLEXURAL STRENGTH

NOMINAL PIPE SIZE, INCHES	TOTAL APPLIED LOAD, POUNDS		
	CLASS	10 FT. LENGTHS	13 FT. LENGTHS
3	100	750	—
	150	830	—
	200	910	—
4	100	1200	1000
	150	1470	1200
	200	1870	1400
6	100	2800	2300
	150	3700	2800
	200	4900	3700
8	100	—	4800
	150	—	5700
	200	—	7600

CRUSHING STRENGTH

Transite water pipe has the crushing strength indicated in the table below when tested in accordance with the ASTM 3-Edge Bearing Method.

NOMINAL PIPE SIZE, INCHES	CRUSHING STRENGTH PER LINEAR FT, LB		
	CLASS 100	CLASS 150	CLASS 200
3	4,600	6,700	8,800
4	4,100	5,400	8,700
6	4,000	5,400	9,000
8	4,000	5,500	9,300
10	4,400	7,000	11,000
12	5,200	7,600	11,800
14	5,200	8,600	13,500
16	5,800	9,200	15,400
18	6,500	10,100	17,400
20	7,100	10,900	19,400
24	8,100	12,700	22,600
30	9,700	15,900	28,400
36	11,200	19,600	33,800

CONDITIONS OF FLOW

COEFFICIENT OF FLOW C=140

Derived from the WILLIAMS and HAZEN Formula.

Transite Water Pipe has a coefficient of C=140. Because of Transite's asbestos-cement composition, this initial high flow capacity cannot be reduced by tuberculating water — the chief cause of loss in carrying capacity. This helps maintain the carrying capacity provided for future requirements and is an important factor in minimizing pumping costs.

(Volumes in U.S. gallons)

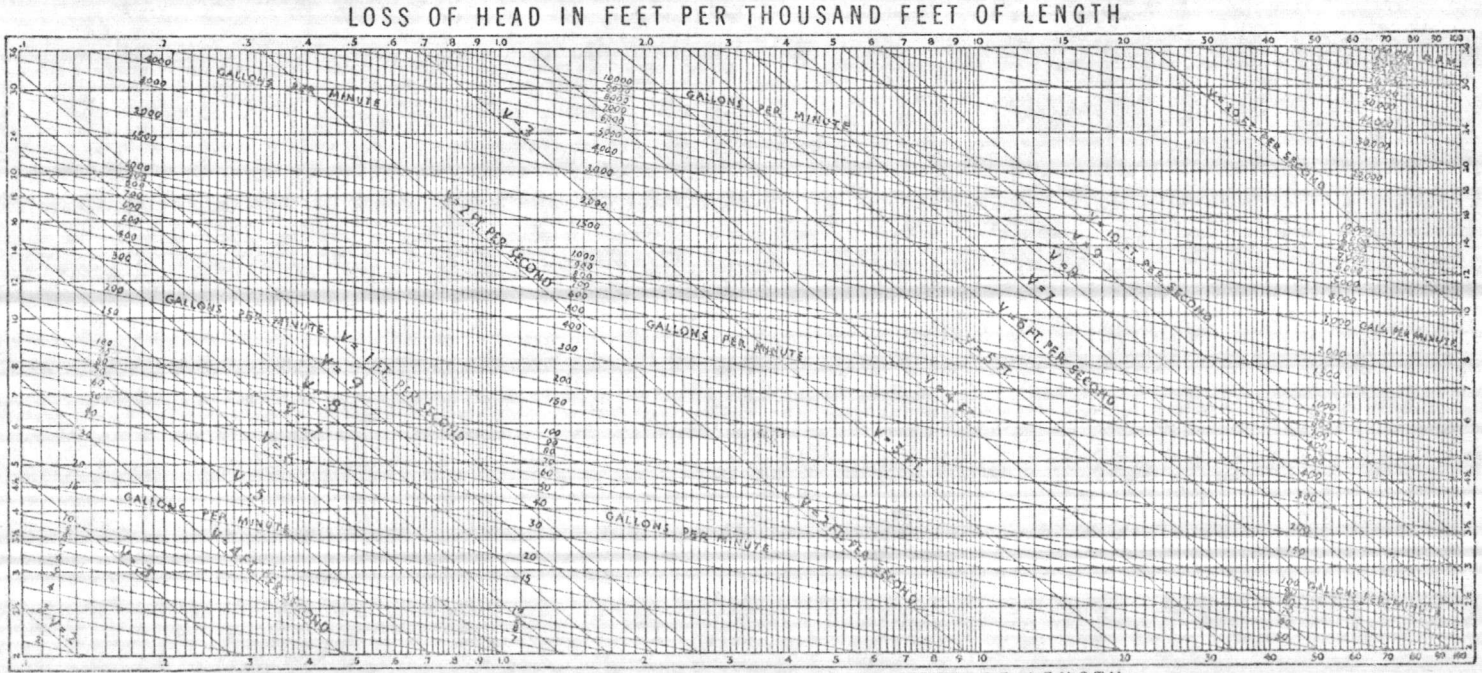
NOTE: Loss of head values derived from this chart are for coefficient of flow C = 140. They may be converted to loss of head for other coefficients of flow by means of the following multiplying factors:

1.15 for C = 130		2.26 for C = 90
1.34 for C = 120	1.86 for C = 100	2.83 for C = 80
1.57 for C = 110		4.82 for C = 60

NOTE: Diameters derived from this chart are for coefficient of flow C = 140. These may be converted to diameters for other coefficients of flow by means of the following multiplying factors.

1.033 for C = 130		1.185 for C = 90
1.063 for C = 120	1.142 for C = 100	1.261 for C = 80
1.100 for C = 110		1.365 for C = 60

LOSS OF HEAD IN FEET PER THOUSAND FEET OF LENGTH

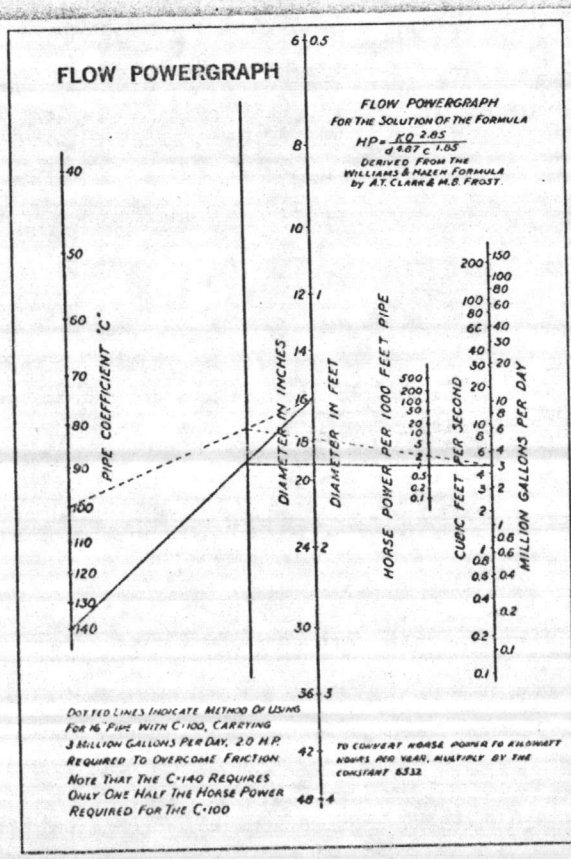


LOSS OF HEAD IN FEET PER THOUSAND FEET OF LENGTH

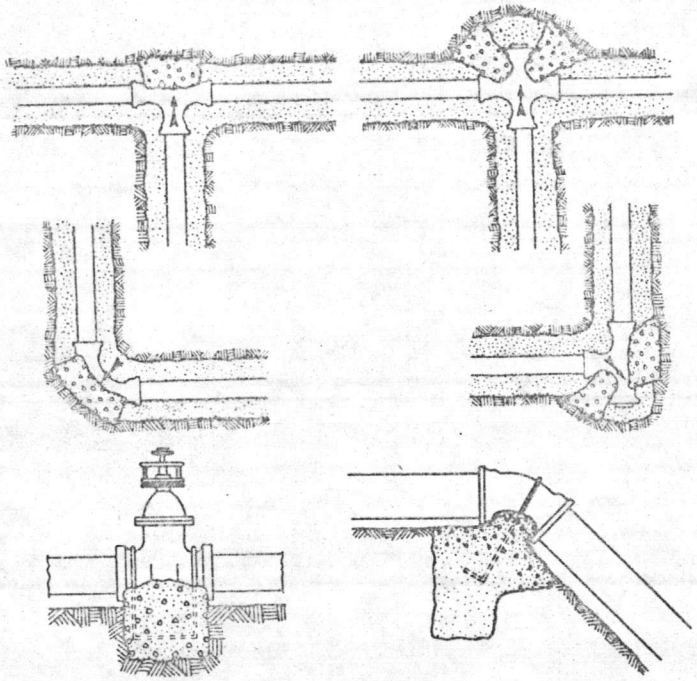
THRUST LOADS

Thrust at fittings in pounds at 100 pounds per square inch of water pressure.

TRANSITE PIPE SIZE	CLASS	TEES	90° BEND	45° BEND	22½° BEND
3"	100	1,190	1,690	915	460
	150	1,260	1,790	970	485
	200	1,260	1,790	970	485
4"	100	1,720	2,440	1,320	660
	150	1,850	2,610	1,420	720
	200	1,850	2,610	1,420	720
6"	100	3,800	5,370	2,910	1,470
	150	3,800	5,370	2,910	1,470
	200	3,800	5,370	2,910	1,470
8"	100	6,580	9,300	5,040	2,550
	150	6,580	9,300	5,040	2,550
	200	6,580	9,300	5,040	2,550
10"	100	9,380	13,270	7,190	3,640
	150	10,750	15,200	8,240	4,170
	200	10,750	15,200	8,240	4,170
12"	100	13,330	18,860	10,240	5,170
	150	15,310	21,640	11,720	5,940
	200	15,310	21,640	11,720	5,940
14"	100	17,930	23,360	13,740	6,960
	150	20,770	29,360	15,910	8,060
	200	20,770	29,360	15,910	8,060
16"	100	23,210	32,820	17,880	9,000
	150	26,880	38,010	20,590	10,430
	200	26,880	38,010	20,590	10,430
18"	100	31,000	44,200	23,850	11,950
	150	34,400	48,500	26,400	13,400
	200	38,600	54,400	29,650	14,900
20"	100	38,400	54,200	29,500	14,700
	150	42,600	60,000	32,600	16,500
	200	47,800	67,400	36,700	18,600
24"	100	55,000	78,000	42,200	21,100
	150	61,500	86,700	47,200	23,900
	200	69,000	97,200	52,900	26,800
30"	100	86,300	122,500	66,300	33,100
	150	96,300	135,800	74,000	37,500
	200	108,000	152,500	82,900	42,000
36"	100	124,500	176,800	95,500	47,700
	150	139,000	196,000	116,600	54,000
	200	156,000	220,000	119,600	60,700

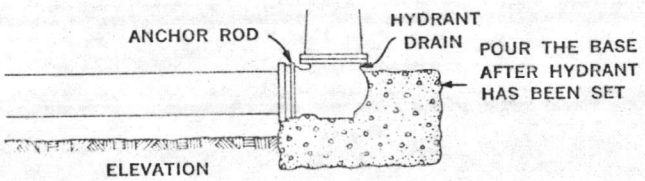


THRUST BLOCKS



If thrusts, due to high pressure, are expected, anchor valves as above.

At vertical bends, anchor to resist outward thrusts.



This type of hydrant foundation acts as a thrust-block, as an anchorage against frost-heave and eliminates wash-outs from waste-water drain.

SAFE BEARING LOADS

The safe bearing loads given in the following table are for horizontal thrusts when the depth of cover over the pipe exceeds 2 feet.

SOIL	SAFE BEARING LOAD LB PER SQ FT
*Muck, peat, etc.	0
Soft clay	1,000
Sand	2,000
Sand and gravel	3,000
Sand and gravel cemented with clay	4,000
Hard shale	10,000

*In muck or peat all thrusts are resisted by piles or tie rods to solid foundations or by removal of muck or peat and replacement with ballast of sufficient stability to resist thrusts.

ADAPTABILITY

Adaptability is an important advantage with Transite, as fittings and valves are available with Ring-Tite joining design. The flexible connections made this way allow full pipe lengths to be used at fittings. Deflection can be taken at couplings which permits making changes in direction up to 5° whether horizontal or vertical. This flexibility helps by-pass trench obstructions. Short lengths are available to assist in accurately locating fittings. If exact location of fittings is necessary, Transite MOA (machined over-all) pieces are furnished to eliminate additional labor costs of machining in the field.

24
60
40

Dec 1961

	Drawdown		Static.
117	37ft		12ft.
227	27ft.		12ft.
43	19ft.		32ft
44	40ft		18ft
109	20ft		34ft
110	24ft		34ft

Oct 1966

Well No.	Static	Drawdown
110	26Ft.	16Ft.
109	34Ft.	20Ft.
43	32Ft.	20Ft.
227		9Ft.
47		3Ft.

Oct 61

DRAW DOWN	STATIC	
47	4Ft.	18Ft.	
227	2Ft	12Ft	STOP 6 hrs
45	26Ft.	32Ft.	
43	20Ft	32Ft.	STOP 4 hrs.
44	4Ft.	18Ft.	
109	21Ft	36Ft	
110	24Ft	34Ft	

	DRAW DOWN	STATIC
H4	5"	17"
H3	18ft	32
109	-11	17
110	11.5"	16
227	2ft	17
H7	2 ft	10 ~~off~~ 7 hrs
H5"	22ft	32

6-6-62

H3 Static 32 ft
on 5 hr Drawdown 20 ft.

off 5 hr H4 Static 16 ft. —
Drawdown 2 ft. —

WATER TREATMENT PLANT

DAILY LOG
WELL REPORT

DATE Jan. 1965

WELL NO.	ON	OFF	TURN ON	TURN OFF	DISCHARGE PRESSURE	DRAWDOWN LEVEL	STATIC LEVEL	OIL	GREASE	CLEAN	OPERATOR
47						9 Ft.	15 Ft				
109						22 Ft.	27 Ft				
~~45~~							~~29 Ft~~				
45						12 Ft.	38 Ft.				
257						10 Ft.	20 Ft				
43						22 Ft.	32 Ft.				
110						22 Ft.	18 Ft.				

WATER TREATMENT PLANT

DAILY LOG
WELL REPORT

DATE May 1965

WELL NO.	ON	OFF	TURN ON	TURN OFF	DISCHARGE PRESSURE	DRAWDOWN LEVEL	STATIC LEVEL	OIL	GREASE	CLEAN	OPERATOR
45					30 LBS	60 Ft	75 Ft				
47					31 LBS	52 Ft	54 Ft.				
227					38 LBS.	34 Ft.	46 Ft				
43						18 Ft.	33 Ft				
109						14 Ft.	24 Ft.				
110					50 LBS	16 Ft	25 Ft.				

Jan. 1963

	DRAW DOWN	STATIC
43	16 Ft.	30 Ft.
109	28 Ft.	38 Ft.
47	18 Ft.	24 Ft.
227	7 ft.	17 Ft.
110	28 Ft.	38 Ft.
45	20 Ft	38 Ft.
44	0	12 Ft.

aug 1962

	DRAW DOWN	STATIC
47.	15 ft	20 ft
43	16 ft	31 ft.
45	25 ft	31 ft.
227	2 ft	15 ft.
44	4 ft	12 ft.
109	22	31 ft.
110	22	32 ft.

49,450

July 1962

DRAW DOWN	STATIC
227 - 0 ft.	15 ft.
45 - 22 ft.	34 ft.
47 - 24 ft.	15 ft.
43 - 21 ft.	15 ft.
110 - 28 ft.	34 ft.
109 - 28 ft	38 ft.
44 - 6 ft.	20 ft.

Feb 1962

	Draw Down	Static
(47)	0	3ft
(227)	2 ft.	15-ft
(45)	25-ft.	32 ft
(43)	18 ft.	33 ft
(110)	26 ft.	15-ft.
(109)	23 ft	17 ft

March 1963

DRAW DOWN			STATIC
47	14ft.	Pressure 5-6	18ft
45	28ft		38ft
227	5ft.		13ft
43	0		30ft
110	26ft		40ft
109	26ft		28

60 | 175

$\frac{6}{7} \cancel{-} \frac{4}{30}$

$\cancel{x}$

(c)

#9-

Sheet 1

Marine Barracks
New River, N. C.
April 5, 1942

Wells: Permanent Water Supply at Balloon Barrage

By Layne Atlantic Company

Report on Well No. 2 in this Area Well W

Location: 65' East of center line of Access Road to Balloon Barrage at Station 13.40

Date Drilled: March, 1942

Drilling Equipment: Rotary rig with bits and equipment

Status: Ground elevation 13.1

A 17½" hole drilled and then reamed to 23" in diameter to a depth of 21 feet. 20 feet of I. D. steel casing was set and the anular space around this was filled with cement grout to surface level. A 17" hole was then drilled inside this to a total depth of 61 feet.

Log of Formation:

0 to 1'	Black top soil
1' to 20'	Fine yellow sand
20' to 31'	Blue clay
31' to 61'	Layers of sand and coquina rock

Remarks: Due to the presence of sand between 31' to 61', it was necessary to construct a gravel wall well. On a test pumping, there was much sand in the discharge from the pump, and the well began to fill up.

Gravel Wall Construction: 30' of 8" steel pipe and 30' of 8" silician bronze shutter screen was lowered into the well and the anular space was pumped full of a special ¼" cape may gravel.

Log of Screen Setting:

0 to 30'	Blank pipe
30' to 60'	Bronze screen

The pipe was of thread joints and the screen was welded. The bottom of the screen was sealed with a cement plug.

Static Water Level: 6'2" below surface

Pumping: Well pumps 170 gallons per minute with a 34' drawdown from static level after 26 hours pumping. This is approximately 5.3 gallons per foot of drawdown.

Further pumping test will be made after permanent pumps are installed.

Report will be made later of pump setting.

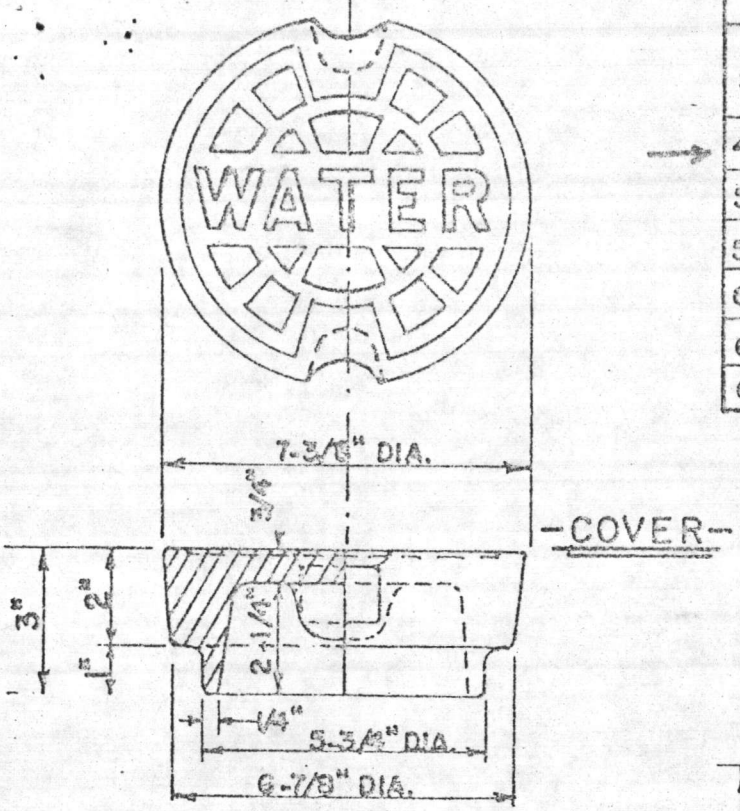
See separate report for chemical analysis.

N. H. Kellam
Asst. Chem. Engineer

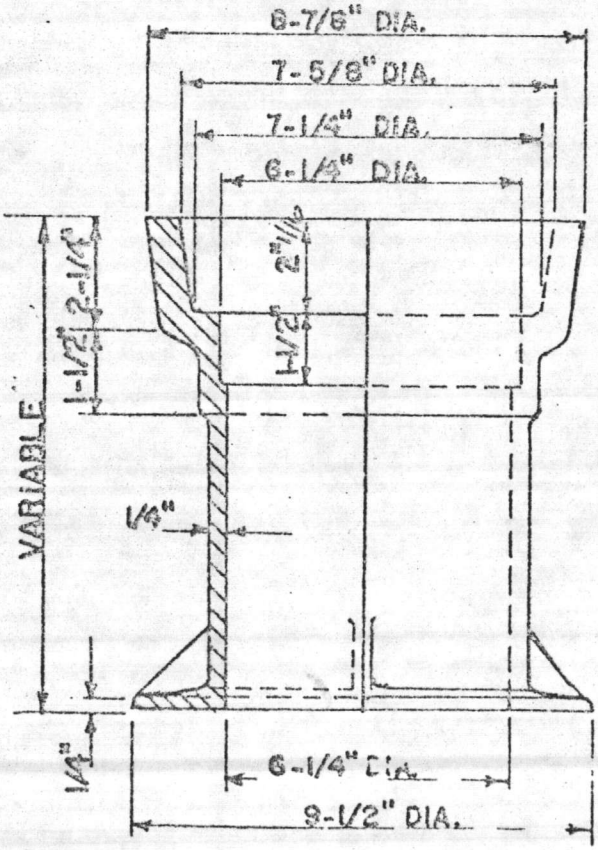
Set 1

SLIP TYPE VALVE BOX

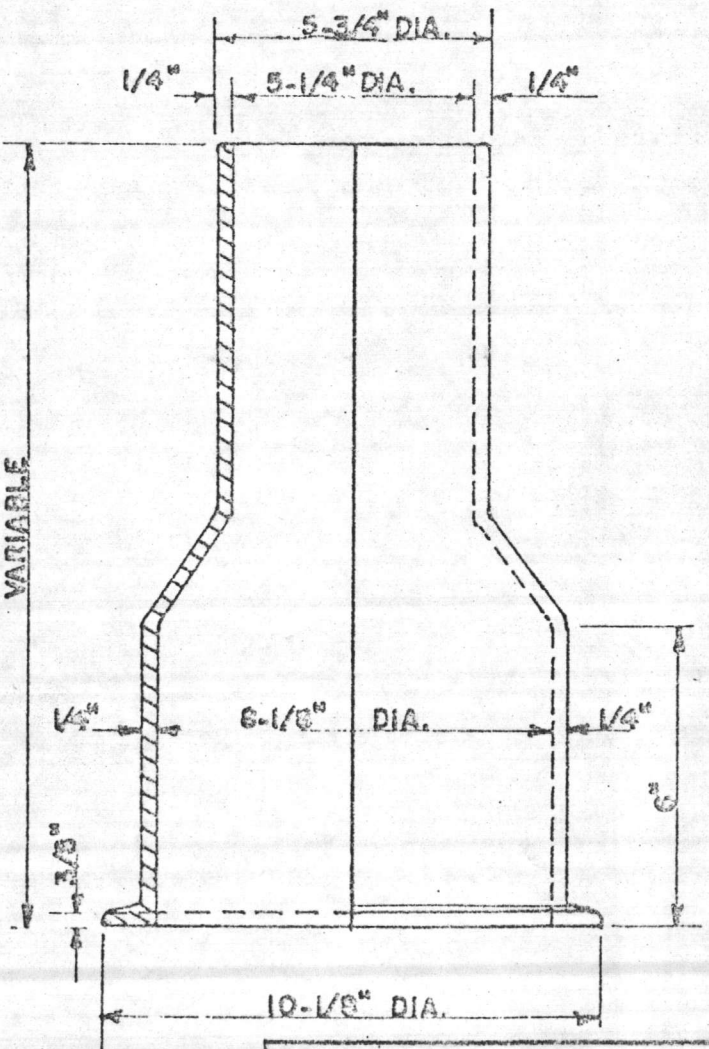
SIZE	BOTTOM		TOP		COVER	COMPLETE	
	LGTH.	WT.	LGTH.	WT.	WT.	EXTENSION	WT.
461-A	5"	27lbs	10"	20lbs	13lbs	16"-24"	60lbs
562-A	24"	35	16"	32	13	24"-36"	80
564-A	36"	45	16"	32	13	36"-48"	90
664-A	36"	45	26"	47	13	36"-60"	105
666-A	48"	50	26"	47	13	48"-72"	110
668-A	60"	60	26"	47	13	60"-84"	120



—COVER—



—TOP—



—BOTTOM—

ALABAMA PIPE COMPANY
ANNISTON, ALABAMA

SLIP TYPE VALVE BOX
FIG. E-2702

DATE:	SCALE:	
7/19/1955	3/4"-1'-0"	C-265-SD


RECEIVED
8 JUL 1974
OICC/ROICC
MARINE CORPS BASE
CAMP LEJEUNE,
N. C.

FLINTITE PRESSURE PIPE

AND THE PRESSURE-PROOF WELD-TITE COUPLINGS

RECOMMENDED APPLICATIONS

Flintite Pressure Pipe is recommended for three uses. First, in municipal water systems, where water is conveyed under pressure in underground pipelines. Second, Flintite Pressure Pipe is recommended for sewer force mains, where sewage is conveyed under pressure. And third, Flintite Pressure Pipe is recommended for industrial lines for water supply, fire lines, plus those conditions where the contents of the water would have a corrosive effect on most underground metal pipes. Included in this category are the disposal of salt water in oil fields and the conveyance of corrosive mine waters.

WHAT IS FLINTITE?

Flintite Pressure Pipes and WELD-TITE Couplings are inorganic and non-metallic. They are composed of asbestos fiber, portland cement, and silica. In the manufacturing process, these ingredients are combined, mixed with water, and then formed into pipes and couplings under tremendous pressures. The asbestos fibers, finely divided and extremely high in tensile strength, serve as a myriad of reinforcing bars to the pipe structure. To achieve a high order of chemical stability, i.e., corrosion resistance, every pipe and coupling is then cured by high pressure steam. Subsequent hydrostatic testing (to levels many times beyond the rated working pressure) and flexure testing for beam srength, assure superb performance in use.

ADVANTAGES

Here are five important reasons why it pays to specify Flintite and WELD-TITE for water works, sewer force mains and industrial lines.

1. *Corrosion Resistance* — Flintite asbestos-cement pipes are exceptionally stable chemically. They are virtually unaffected by soil and water conditions that corrode underground metallic pipes. Flintite Pipes do not tuberculate, meaning retained low frictional resistance and a high flow-rate of clear, oxide-free water. Unlike metallic pipe, FLINTITE Pipe is also immune to electrolysis and is highly resistant to pipe failure and bursting which result from the weakening effects of corrosion. For its recommended applications, no other material comes close to high pressure steam-cured asbestos-cement for trouble-free performance.

2. *Superb* WELD-TITE *Couplings* — Tight, yet flexible, WELD-TITE Couplings automatically accommodate themselves to line pressures and surges. The pipe line thus can absorb vibration and shock, compensate for settlement stresses and external loads, yet always remain watertight.

3. *Ease of Installation*—Flintite Pipes are lightweight. This means carrying more feet of pipe per truckload to the trench, and faster assembly of pipe lengths. In one operation, pipe lengths and WELD-TITE Couplings are assembled, with minimum effort, equipment, tools, time. It is equally easy to join full lengths of pipe directly to fittings, valves and hydrants whose bell-ends incorporate the WELD-TITE Coupling design.

4. *Quality Control* — Throughout the entire manufacturing process, Flintite Pipes and WELD-TITE Couplings are subject to rigid inspections for various physical and chemical properties. In addition, *every length* of Flintite Pressure Pipe and *every* WELD-TITE Coupling is hydrostatically tested to at least *3½ times* its rated working pressure. And samples of every manufacturing lot are further tested to 4 times rated working pressure, assuring compliance with Orangeburg's strength-standard of this higher hydrostatic requirement. Furthermore, every 3″, 4″, 6″ and 8″ pipe is flexure tested for beam strength.

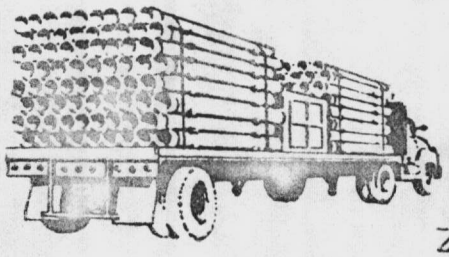
5. *True Economy* — Economy includes purchase price, installation cost and performance. Flintite Pressure Pipe and WELD-TITE Couplings, first, are low in initial cost. Second, they provide considerable economics during installation. And third, they give long-lasting, trouble-free service.

The Importance of Corrosion Resistance — retention of original structural integrity assures performance — protects investment.

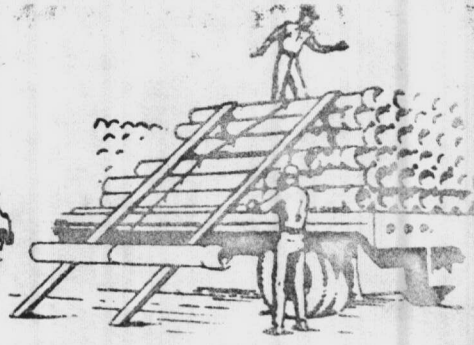
What's the Effect of Corrosion? — The effects of corrosion are two-fold; on the structural integrity of the pipe, and on its performance. As corrosion develops, a pipe's structure is weakened, first causing leaks in the system, and ultimately actual pipe failure through bursting. Rate of flow is also diminished as corrosive deposits develop on the interior surface of the pipe.

Flintite Pressure Pipe Means Installation Economies

Flintite pipe is lightweight. Requires no machinery for unloading from truck. Whether belled-ahead at factory, or on the job, joining is swift, sure, simple. Necessary connections to valves or hydrants are most readily accomplished with WELD-TITE type fittings — easily connected to mechanical joint or conventional bell fittings. From start to finish, Flintite Pipes and WELD-TITE Couplings give you faster, easier installation.



Lightweight, more feet of Flintite Pipe per truckload can be brought to the trench site.



Unloading pipes at trench-site is quickly accomplished using a few men, ropes and skids.

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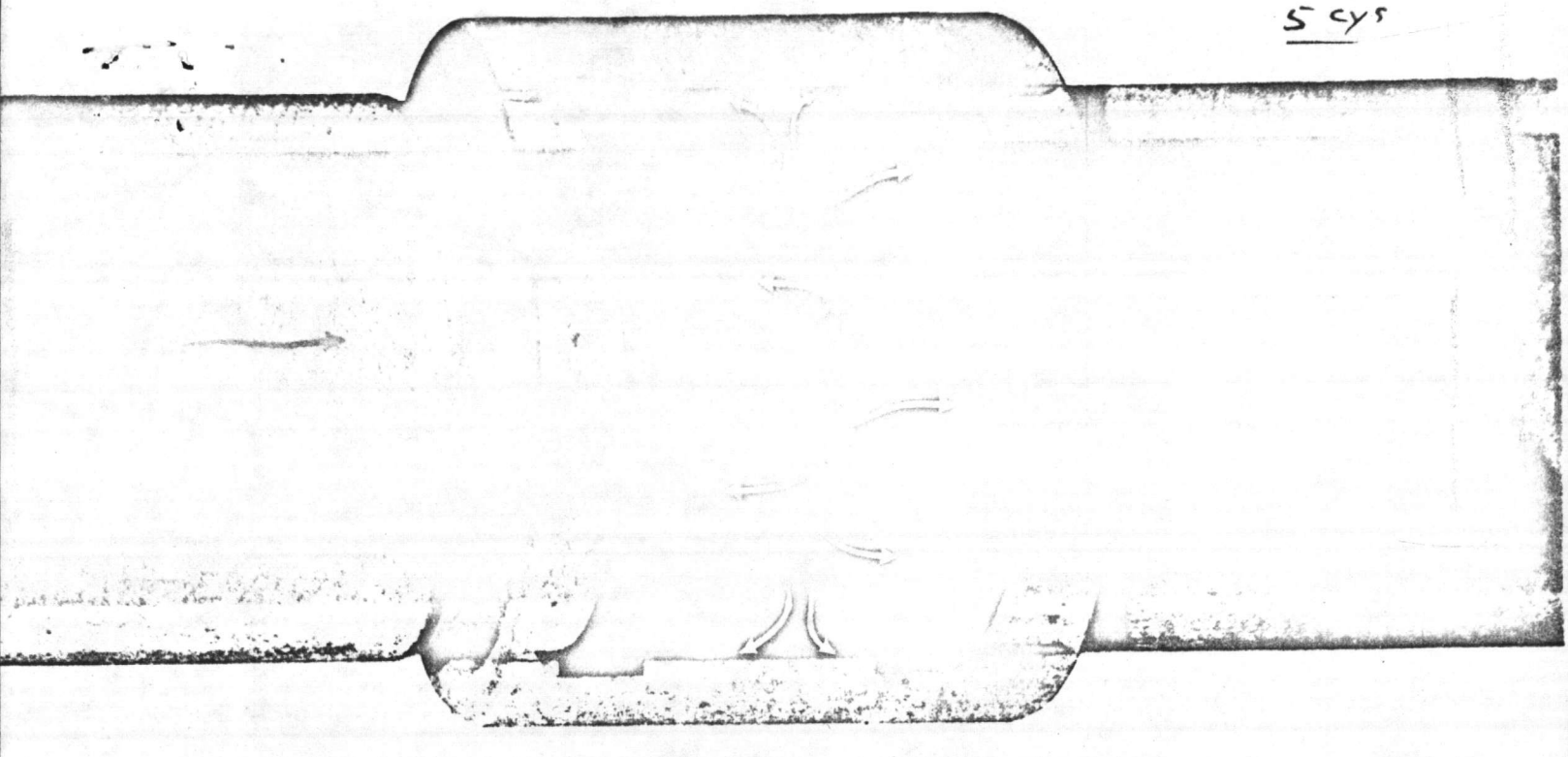


THE PIPE AND COUPLING ASSEMBLY — Tight, Flexible, Pressure-Proof

1. Rubber sealing ring is permanently locked in coupling-groove. As lubricated pipe-end is inserted into coupling, rubber ring is compressed, automatically forms tight seal.
2. Ends of pipe are permanently separated to allow for pipe expansion, deflection, absorption of shock or vibration.
3. Ring against shoulder of pipe prevents deeper insertion of pipes into coupling.
4. Water comes up (arrows) through pipe separation. Pressure forces inner lips of rubber rings into an even tighter seal. Result — a flexible, yet pressure-proof coupling.

What Causes Corrosion? — Corrosion is an electro-chemical reaction that may take place between pipe and soil, or the pipe and the water it conveys. The more active elements — iron, for example — are particularly susceptible to corrosive environments.

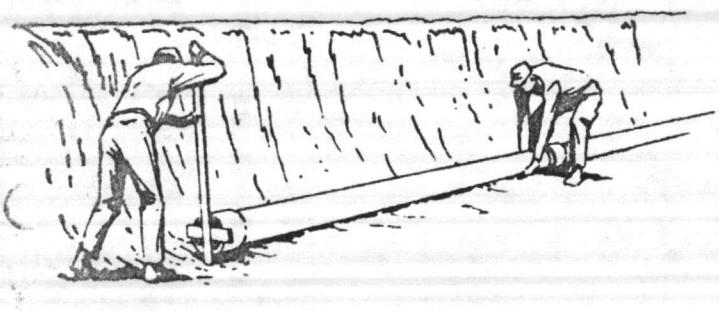
Why is FLINTITE *Asbestos-Cement Pressure Pipe Highly Corrosion-Resistant?* As a result of Orangeburg's formula for FLINTITE Pipe and its high pressure steam-curing process, FLINTITE Pipes and WELD-TITE Couplings are extremely stable chemically. They are not readily affected by environments which cause corrosion to occur in other materials. FLINTITE Pipe is unaffected by virtually all soil and water conditions. Its inside surface neither rusts nor tuberculates. It maintains a high level of flow, and a low level of frictional-resistance. This means that the original high performance of a FLINTITE Pipe water system is retained — with vastly reduced incidence of water leakage, pipe failure and costly maintenance.

In Conclusion — whether the job is an entire water system or an extension of any existing system, it is easily and economically accomplished with Flintite. That's why it pays to specify and use Flintite and WELD-TITE.

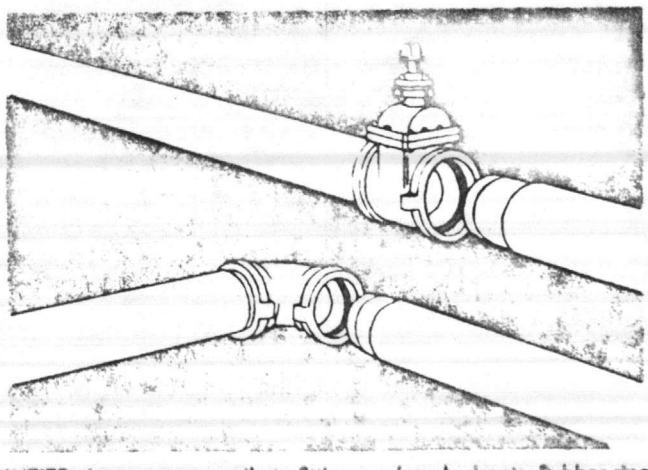
SPECIFICATIONS

Detailed specification requirements for FLINTITE Asbestos-Cement Pressure Pipe with WELD-TITE Couplings are contained in Material Specification #AC-002-65. FLINTITE Pressure Pipes and WELD-TITE Couplings meet the following specifications:

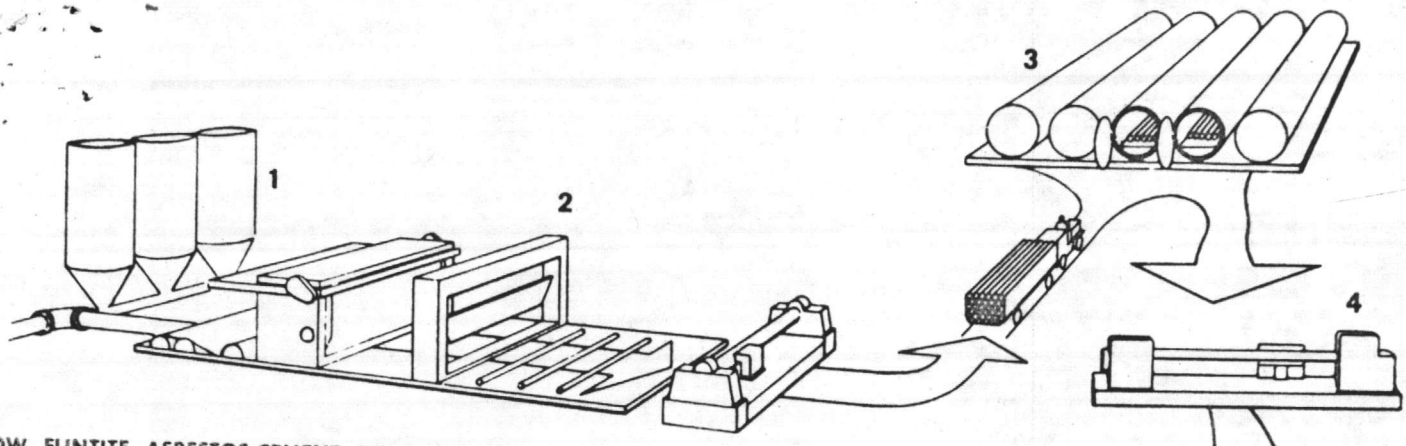
Underwriter's Laboratories — this means minimum fire insurance rates
American Water Works Association — C400-64T
A.S.T.M. Specification C296
U.S. Federal Specifications — SS-P-351 a



Bar and wood-block are used for swift joining of coupling and pipe. Shoulder on pipe automatically positions coupling.



FLINTITE pipe connects easily to fittings, valves, hydrants. Rubber rings provide same flexible, watertight joining as in WELD-TITE couplings.



HOW FLINTITE ASBESTOS-CEMENT PRESSURE PIPE AND WELD-TITE COUPLINGS ARE MANUFACTURED

Pipes and couplings are composed of three inorganic materials — asbestos fiber, Portland cement and silica. Precise amounts of each are combined and then mixed with water to form a slurry. This slurry is built-up under pressure to desired thickness, in tubular shape, on a rotating mandrel. Curing processes follow which impart great strength and superior corrosion resistance. Subsequent hydrostatic, flexure and crush tests assure superb performance underground.

The Basic Manufacturing Process

1. *Mixing of Ingredients* — Closely controlled amounts of asbestos fiber, Portland cement and silica are combined and then mixed with water to form a slurry.
2. *Forming* — Here, the slurry is built-up, under pressure on accurately-sized rotating mandrels, to form the actual asbestos-cement pipes. Later, the mandrels are removed leaving a smooth, precise bore.
3. *Curing* — In these enormous high pressure steam autoclaves, temperature and moisture are used to impart unusual chemical stability* and physical strength to pipes and couplings.
4. *Machining* — Highly-automated lathes accurately machine pipe-ends and couplings and adaptors to specifications. Careful machining in the factory assures easier, more economical assembling in the field.
5. *Testing and Quality Control* — Hydrostatic testing, to at least 3½ times rated working pressure, for *every* Flintite Pressure Pipe and WELD-TITE Coupling is followed by flexure and compression tests to assure compliance with rigid requirements for beam strength and crush resistance.
6. *Storage and Shipping* — Here pipes and couplings are stored in forklift units in a wide variety of sizes and classes, available for immediate shipment.

*NOTE: *In technical terms, a reaction is affected by high pressure steam curing of the control mixture of Portland Cement and silica in* FLINTITE *Asbestos-Cement Pressure Pipe and* WELD-TITE *Couplings that accomplishes:*

1. *The removal of uncombined calcium hydroxide (hydrated free lime) liberated from the cement by conversion to stable, insoluble crystalline calcium silicate and*
2. *The conversion of sulfate susceptible tricalcium aluminate to an insoluble stable garnet of calcium alumino silicate hydrate.*

ADAT WATER WELLS

FLINTKOTE

FLINTITE ASBESTOS-CEMENT PRESSURE PIPE

WITH WELD-TITE COUPLINGS

BY ORANGEBURG MANUFACTURING COMPANY
DIVISION OF THE FLINTKOTE COMPANY
30 Rockefeller Plaza, New York, N.Y. 10020

FLINTITE PRESSURE PIPE SIZES AND WEIGHTS

Pipe Size Inches	CLASS 100 Pipe Wt. Lbs./Ft.	CLASS 100 Cplg. Wt. Each	CLASS 100 Pipe Wt. Incl. 1 Cplg. and 3 Rings Per Length Lbs./Ft.	CLASS 150 Pipe Wt. Lbs./Ft.	CLASS 150 Cplg. Wt. Each	CLASS 150 Pipe Wt. Incl. 1 Cplg. and 3 Rings Per Length Lbs./Ft.	CLASS 200 Pipe Wt. Lbs./Ft.	CLASS 200 Cplg. Wt. Each	CLASS 200 Pipe Wt. Incl. 1 Cplg. and 3 Rings Per Length Lbs./Ft.
3	4.5	3.8	5.1	5.0	5.9	5.6	5.5	5.9	6.1
4	5.4	6.6	6.1	6.5	7.2	7.2	8.0	7.7	8.8
6	10.2	11.1	11.1	11.2	11.1	12.1	13.3	12.9	14.3
8	15.4	14.1	16.5	17.3	16.0	18.5	20.7	19.5	22.2
10	21.3	16.6	22.6	27.8	23.5	29.6	32.2	29.6	34.5
12	29.6	24.8	31.5	37.7	37.2	40.6	44.5	47.6	48.2
14	36.9	38.6	39.8	50.0	58.1	54.5	59.0	73.7	64.7
16	47.0	46.7	50.6	62.0	71.5	67.5	76.5	92.9	83.6

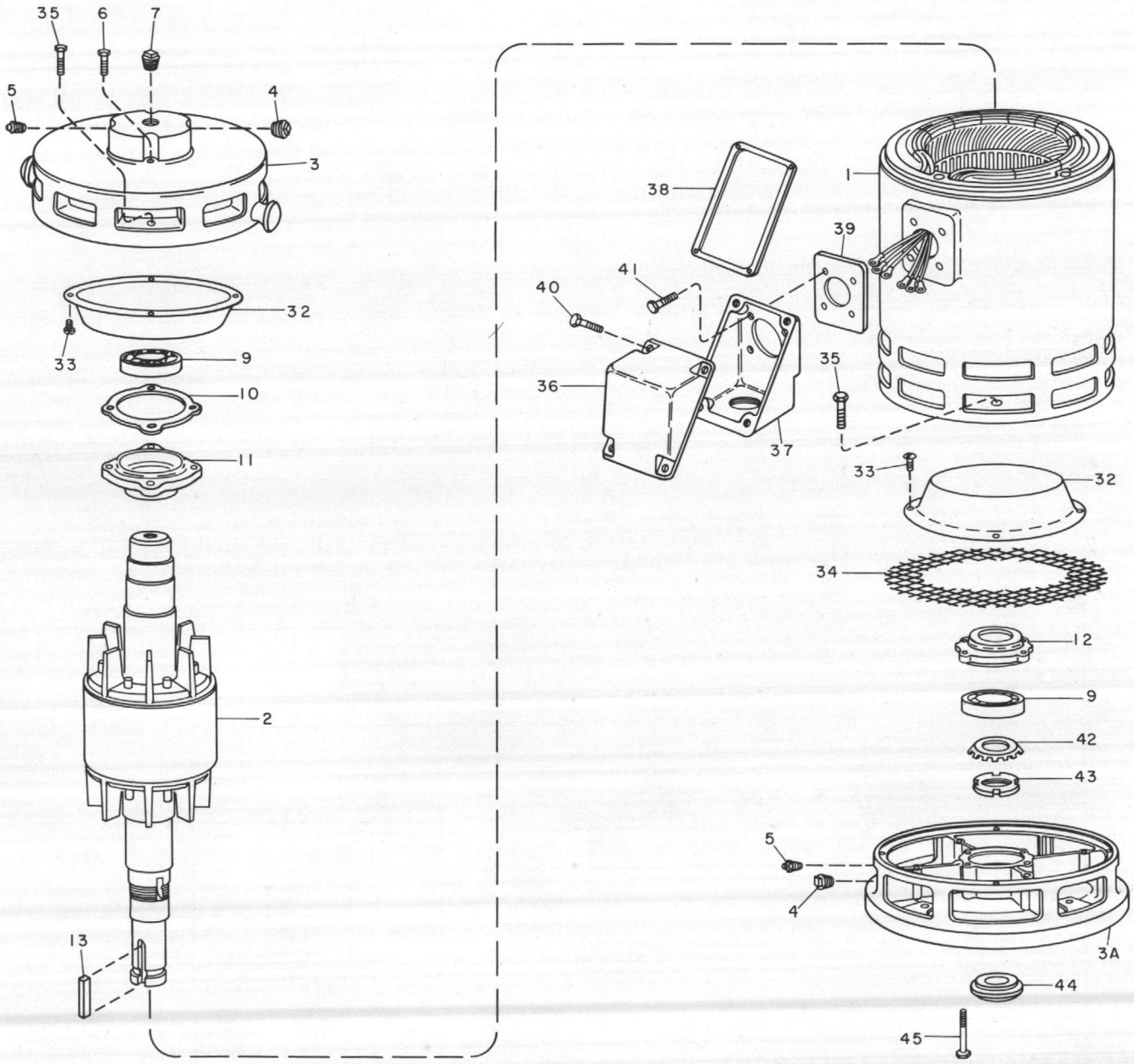
Standard Pipe Lengths: 3" & 4" — 10' Lengths; 6" thru 16" — 13' Lengths.
(6" Pipe Also Available in 10" Lengths.)

Printed in U.S.A. 3/65 10-M

RENEWAL PARTS

GEG-20222

REPRESENTATIVE OF VERTICAL DRIPPROOF (SHIELDED) SOLID SHAFT INDUCTION MOTORS, NEMA WPI—P BASE (GREASE LUBRICATION)



When ordering renewal parts, give quantity, reference number, description of each item required, and complete nameplate data.

GENERAL ELECTRIC

Data subject to change without notice.

LIST OF RENEWAL PARTS

FOR MODEL NO. _____

When ordering renewal parts, give the illustration reference number, complete description from this list, the catalog number (if available), and the Model Number of the motor.

Ref. No.	No. Req.	Description
1	1	Complete stator and frame-includes:
		a. set of stator coils
		b. wound stator core
		c. unwound stator core
		d. stator frame
2	1	Rotor assembly
3	1	End shield, upper
3A	1	End shield, lower
4	2	¶Grease plug
5	2	Grease fitting
6	4	Screw-fastens bearing cap to end shield, upper
7	1	Pipe plug, upper
9	2	¶Ball bearing
10	1	Gasket, bearing cap, upper
11	1	Cap for ball bearing, upper
12	1	Cap for ball bearing, lower

Ref. No.	No. Req.	Description
13	1	Key for rotor shaft, lower
32	2	¶Air deflector
33	8	Screw-fastens deflector to end shield
34	1	Screen
35	8	Screw-fastens end shield to stator frame
36	1	Conduit box cover
37	1	Conduit box
38	1	Conduit box gasket
39	1	Gasket, conduit box to stator frame
40	4	Screw-fastens conduit box
41	4	Screw-fastens conduit box to stator frame
42	1	Bearing lockwasher
43	1	Bearing locknut
44	1	Labrynth seal
45	4	Cap screw-fastens cap to end shield, lower

¶When ordering, specify whether for upper or lower end.

Ref. No.	Description	Cat. No.	Price

GENERAL ELECTRIC COMPANY • AC MOTOR AND GENERATOR DIVISION • SAN JOSE MOTOR PLANT
SAN JOSE, CALIFORNIA 95114

2-73 (5M)

PRINTED IN U.S.A.

INSTRUCTIONS

TRI/CLAD® VERTICAL INDUCTION MOTORS HIGH THRUST, HOLLOW AND SOLID SHAFT, "P" BASE FRAMES 213-256, B254-B286 OPEN ENCLOSURES

INTRODUCTION

General Electric vertical motors covered by these instructions are carefully constructed of high-quality materials and are designed to give long periods of trouble-free service when properly installed and maintained.

Standard high-thrust motors (see Fig. 1) are generally used to drive pumps, and, as their name implies, have provisions for accepting the axial thrust load imposed by the driven machine. They may be of either hollow or solid-shaft construction. Figure 2 shows a typical hollow-shaft motor. The solid-shaft construction is similar except that the top half coupling is omitted, and the motor shaft extends out the bottom of the motor. This standard construction is for high continuous down-thrust and is good for momentary up-thrust only in the magnitude of 30 percent of the rated down-thrust.

These motors may be supplied with bearing arrangements for various external thrust conditions imposed by the pump, such as different magnitudes of down-thrust and either momentary or continuous up-thrust.

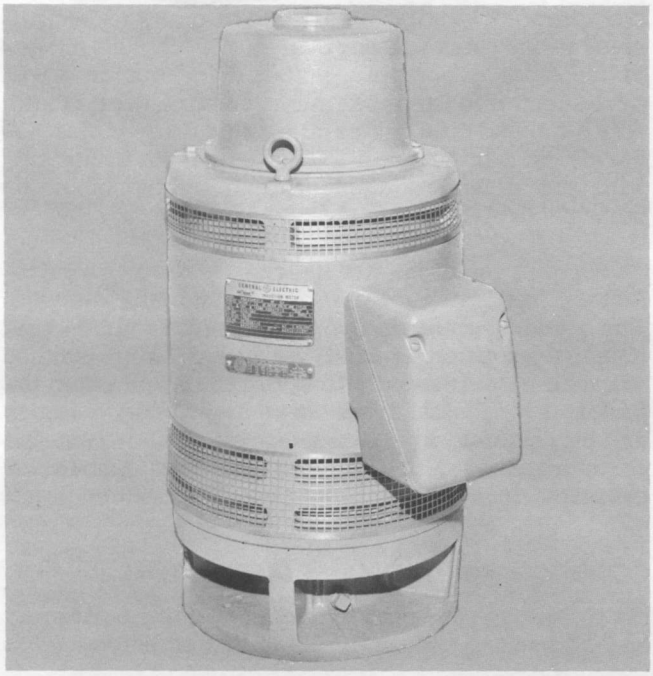


Fig. 1. Typical vertical motor

Figure 3 shows a typical solid-shaft construction where continuous up-and-down thrust is required. This construction utilizes a double-row bearing.

Since overloading greatly reduces bearing life, the amount of thrust applied should not exceed the recommended values.

General mechanical construction for wound-rotor motors is the same as for other types with the addition of rings, brushes, rotor windings, etc. (see Fig. 4).

RECEIVING, HANDLING AND STORAGE

Each motor should be carefully examined upon arrival, and any damage reported promptly to the carrier and to the nearest office of the General Electric Company.

WARNING: *THE MOTOR SHOULD BE LIFTED BY THE EYE BOLTS PROVIDED. THESE EYE BOLTS ARE INTENDED FOR LIFTING THE MOTOR ONLY AND MUST NOT BE USED TO LIFT ANY ADDITIONAL WEIGHT. CHECK THE EYE BOLTS BEFORE LIFTING TO BE SURE THEY ARE SCREWED IN ALL THE WAY. BE CAREFUL NOT TO TOUCH OVERHEAD POWER LINES WITH LIFTING EQUIPMENT. FAILURE TO OBSERVE THIS WARNING MAY RESULT IN PERSONAL INJURY OR DEATH.*

If the motor is not to be installed immediately, it should be stored in a clean, dry location. Precautions should be taken to prevent the entrance of moisture, dust, or dirt during storage and installation.

During storage, windings should be protected from excessive moisture absorption by some safe and reliable method of heating. Space heaters, if supplied, may be used for this purpose. The tem-

SAFETY PRECAUTIONS

WARNING

High voltage and rotating parts can cause serious or fatal injury. The use of electric machinery, like all other utilization of concentrated power and rotating equipment, can be hazardous. Installation, operation, and maintenance of electric machinery should be performed by qualified personnel. Familiarization with NEMA Publication MG2, *Safety Standard for Construction and Guide for Selection, Installation and Use of Electric Motors and Generators,* the National Electrical Code, and sound local practices is recommended.

For equipment covered by this instruction book, it is important to observe safety precautions to protect personnel from possible injury. Among the many considerations, personnel should be instructed to:

- avoid contact with energized circuits or rotating parts,
- avoid by-passing or rendering inoperative any safeguards or protective devices,
- avoid extended exposure in close proximity to machinery with high noise levels, and
- use proper care and procedures in handling, lifting, installing, operating and maintaining the equipment.

Safe maintenance practices with qualified personnel is imperative. Before initiating maintenance procedures, be sure that *all* power sources are disconnected from the machine and accessories to avoid electric shock. High potential insulation test for this equipment is not recommended; however, should it be required, procedures and precautions outlined in NEMA Standards MG-1 should be followed.

Failure to properly ground the frame of this machine may cause serious injury to personnel. Grounding should be in accordance with the National Electrical Code and consistent with sound local practice.

perature of the windings should always be maintained a few degrees above the temperature of the surrounding air. It is recommended that motors in storage be inspected, the windings meggered, and a log of pertinent data kept. Any significant decrease in insulation resistance should be investigated.

See page 7 of the Relubrication Section for motors in storage.

If motor is to be in storage for over one year, it is recommended that competent technical inspection service be contracted for, such as General Electric Installation and Service Engineering Department, to ensure that the storage has been adequate and that the motor is suitable for service.

INSTALLATION

LOCATION AND MOUNTING

Motors should be located in a suitable enclosure to prevent access to the motor by children or other unauthorized personnel in order to prevent possible accidents. This is especially important for motors that are remotely or automatically controlled or have automatic resetting overload relays, since such motors may start unexpectedly.

Allow enough space around the motor to permit free flow of ventilating air and to maintain an ambient temperature of not over 40 C. Where a choice of locations is possible, install the motor so it will be subjected to the least amount of dirt, dust, liquid, and other harmful materials. Mount the motor securely on a level, firm foundation, align accurately with the driven equipment, and tighten mounting bolts securely.

Some precautions are necessary to assure satisfactory operation of motors in pumping service. The packing gland in the pump head should be kept in good condition so that the liquid being pumped will not be forced out along the shaft and enter the motor through the lower bearing housing. Motors driving pumps in pressure systems, where the pressure is maintained after shutdown, should be protected from overspeeding by check valves.

COUPLINGS FOR HOLLOW-SHAFT MOTORS

To ensure proper functioning, coupling bolts must be tightened to torque values indicated below:

Bolt Size	Torque (lb-ft)	Bolt Size	Torque (lb-ft)
5/16	20	5/8	160
3/8	37	3/4	320
1/2	90	1"	710

CAUTION: *IT SHALL BE THE INSTALLER'S RESPONSIBILITY IN ALL CASES TO ASCERTAIN THAT THESE TORQUE VALUES HAVE BEEN ADHERED TO. THIS SHALL INCLUDE THOSE INSTANCES WHEN THE COUPLING COMES MOUNTED IN THE MOTOR. FAILURE TO COMPLY MAY RESULT IN COUPLING BOLTS SHEARING AND EXTENSIVE DAMAGE TO EQUIPMENT.*

Vertical hollow-shaft motors are designed for driving deep-well, turbine-type pumps and can be equipped with either self-release, bolted, or non-reverse couplings. The type of coupling is specified by the pump manufacturer. Remove the drip cover or the top cap to gain access to the coupling.

Self-release Coupling

Should the motor accidentally operate in the reverse direction, the pump line-shaft joints may unscrew. The self-release coupling (see Fig. 2 inset) acts to limit the amount of this unscrewing. In normal operation, torque from the motor is transmitted by the lower-half coupling through the driving pins to the top-half coupling and thus to the pump shaft. When reversal occurs and the pump shaft starts to unscrew, the top-half coupling disengages from the driving pins, thus uncoupling the pump and motor.

Proper functioning of the self-release coupling depends upon several factors. The pump shaft adjusting nut must be securely attached to the top-half coupling, and the top-half coupling must not bind on the lower half. Otherwise the adjusting nut lockscrew may break instead of the coupling halves separating. As a result, the motor would continue to drive the pump line shaft, and the joints would continue to unscrew. Serious damage may result to both the motor and line shaft. To check the clearance between the coupling halves, place the top-half coupling in position prior to installing the motor. It should drop into place and rest solidly on the lower-half coupling without forcing.

Proper alignment of the pump head shaft within the motor hollow shaft is also important. After the coupling releases, it no longer holds the pump shaft centered. If the alignment is not good, the motor shaft which is still rotating may rub the pump shaft which has stopped, and damage will result.

A third requirement is that the distance between the top of the pump shaft and the inside of the motor cover be at least enough to allow the top-half coupling, when it releases, to clear the pins before the shaft hits the cover. Check this clearance after the adjusting nut has been drawn up to its final position. To facilitate making this check, refer to Fig. 2 which shows a maximum dimension "XH" from the top of the coupling to the top of the shaft. Adhering to this design limit will allow the shaft and coupling to lift to clear the pins and still leave a small clearance between the shaft and cover. For standard motors, dimension XH is 1 3/4 inches for frames 213-256 and B254-B286.

Depending upon the circumstances causing reversal and upon which line shaft joint unscrews, there may be enough energy stored in the rotating parts, at the time the coupling clears the pins, to cause the pump shaft to continue to rise and strike the motor cover. However, if the above conditions are met, damage even in the most severe cases should be limited to a broken top cap.

It is expected that the self-release coupling will be called upon to operate only at infrequent intervals. Operation from the usual cause, i.e., application of single-phase power after an interruption, can be minimized by proper selection of control. When power is removed from the motor, the reverse flow of water through the pump tends to cause reverse rotation or "back spin." If single-phase power is applied during the back spin, the motor will continue to run in the reverse direction. It will drive the pump and tend to unscrew the line shaft joints. The selection of control which prevents automatic restarting after a power interruption, or which employs a backspin timer to delay restarting until the motor comes to rest, will reduce the frequency of such occurrences.

Bolted Coupling

The bolted coupling allows up-thrust from the pump to be taken by the motor bearings (see END-PLAY ADJUSTMENT under MAINTENANCE). It is similar to a self-release coupling except that the driving pins are replaced by bolts, which should be securely tightened to hold the two halves of the coupling solidly together. (See Torque Requirements on page 2.) This type of coupling does not have the self-release feature.

Non-reverse Coupling

The non-reverse coupling (see Fig. 2) is also a bolted type, and it keeps the pump and motor from rotating in the reverse direction. Thus, it not only prevents the pump shaft from unscrewing, but it also prevents damage from over-speeding and damage to water-lubricated pump shaft bearings which might occur during back spin. In normal operation, motor torque is transmitted to the pump shaft through the two halves of the coupling which are bolted together. The ratchet pins are lifted by the ratchet teeth, and are held clear by centrifugal force and friction as the motor comes up to speed. When power is removed, the speed decreases, and the pins fall. At the instant of reversal, a pin will catch in a ratchet tooth and prevent backward rotation. The number of pins dif-

fers from the number of teeth to multiply the number of stopping positions.

Too rapid a decrease in speed can result in inertia forces great enough to prevent the pins from dropping. This condition is further aggravated when the pins become dirty, and their action becomes sluggish. To permit operation when the time from shutdown (the instant the stop button is pressed) to zero speed is less than two seconds, the pins are spring-loaded. For those cases involving cycling (frequent starting and stopping) and stopping times greater than two seconds, the springs should be removed to decrease wear on the ratchet plate.

A complete non-reverse top coupling is shown in Fig. 2. This coupling includes a ratchet plate, pin carrier, pins, springs, pin retaining plate, and cap screws. Pins and springs are made of heat-treated stainless steel. The pin carrier is one piece and fits in place of the self-release coupling.

Motors shipped from stock may have their top couplings and non-reverse assemblies packaged separately.

When installing the non-reverse coupling, use no lubricant. Lubrication will interfere with proper operation. The top half of the coupling should seat solidly on the lower half and the pins should touch the bottom of the pockets between the teeth in the ratchet plate. The clearance between the top-half coupling and the top of the ratchet teeth should be between 1/32 and 1/8 inch.

Two slots are provided in the outside rim of couplings so that a bar can be inserted to keep the assembly from turning while the adjustment of pump impeller clearance is being made.

ELECTRICAL CONNECTIONS

Select and install control equipment and wiring according to National Electrical Code and sound local practice. Check the voltage and frequency with nameplate values. The motor will operate successfully, but with somewhat modified characteristics, when the line voltage is within plus or minus ten percent of nameplate value, the frequency within plus or minus five percent, or the combined variation within plus or minus ten percent (provided the frequency variation does not exceed five percent).

Motors rated 200 volts are designed for use on 208-volt systems.

Operation of a motor rated 230 volts on a 208-volt system is not recommended because utilization voltages are commonly encountered below the minus 10 percent tolerance on the voltage rating for which the motor is designed. Such operation will generally result in excessive overheating and serious reduction in torques (National Electrical Manufacturers Association).

LUBRICATION

All grease-lubricated bearing housings are packed with the proper amount of GE grease before leaving the factory and will not require regreasing until they have been in service for a time.

See instructions under MAINTENANCE for relubrication recommendations.

OPERATION

Check the electrical connections.

When possible, leave the motor disconnected from the load for the initial start. First make sure that the rotor turns freely, then operate the motor without load for about an hour to test for excessive vibration and for any unusual, localized heating in the bearings and winding.

To reverse the direction of rotation of a three-phase motor, interchange any two line leads; to reverse direction of a two-phase motor, interchange T_1 and T_3.

Operate the motor under load and check the current. Do not exceed the steady value of nameplate amperes times service factor.

MAINTENANCE

WARNING: *BEFORE INITITATING MAINTENANCE PROCEDURES, DISCONNECT ALL POWER SOURCES TO THE MACHINES AND ACCESSORIES AND COMPLETELY DISCHARGE ALL PARTS AND ACCESSORIES WHICH MAY RETAIN ELECTRIC CHARGE. FAILURE TO DO SO CAN RESULT IN SEVERE PERSONAL INJURY.*

INSPECTION AND CLEANING

A systematic inspection should be made at regular intervals, depending on service and operating conditions.

Keep both the interior and exterior of the motor free from dirt, oil, and grease. Open motors should be kept as dry as possible; if operating in dirty places, they should be disassembled periodically and thoroughly cleaned.

Motors may be blown out with dry compressed air of moderate pressure, but cleaning by suction is preferred due to the possibility of water in the compressed air lines and the danger of blowing metal chips into the insulation with compressed air.

WARNING: *SCREENS AND COVERS ARE PROVIDED AS NECESSARY FOR PROTECTION OF THE EQUIPMENT AND PERSONNEL. ALL SCREENS MUST BE KEPT FREE OF DIRT AND DEBRIS TO ENSURE PROPER VENTILATION, AND MAINTAINED IN PLACE FOR PROTECTION OF PERSONNEL.*

The condition of the non-reverse coupling should be checked periodically by removing the drip cover or top cap. If dirt has caused the action of the pins to become sluggish, the pin carrier should be removed, disassembled, and thoroughly cleaned with a suitable solvent. The parts should then be dried and reassembled in accordance with the instructions given under INSTALLATION – COUPLINGS. Sometimes after a long period involving frequent starts and stops, the surface of the holes in the pin carrier becomes polished so that friction forces will no longer hold the pins clear of the ratchet teeth when the motor is running. This condition can be remedied by roughing these surfaces with a piece of emery paper wrapped around a rod.

Whenever the dismantling of couplings is necessary, the use of witness marks will assure a balanced condition when reassembly is complete.

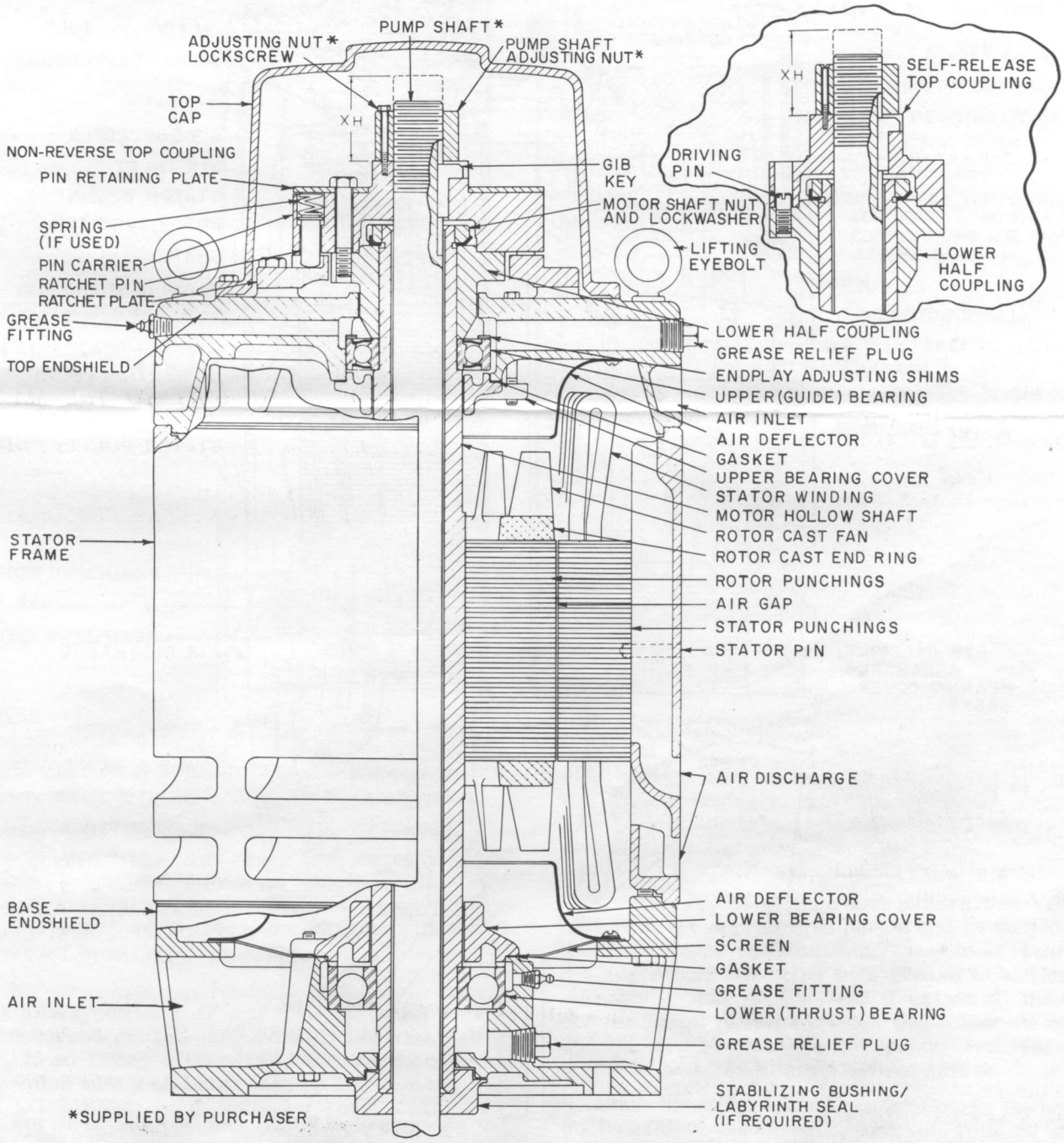


Fig. 2. Typical high-thrust, hollow-shaft motor with non-reverse coupling. Self-release type shown in inset.

RELUBRICATION

Motors covered by these instructions employ grease lubrication for both the upper (guide) bearing and the lower (thrust) bearing.

The bearing housings are packed at the factory with sufficient long-life grease for an initial operating period. Since the oil in the grease will ultimately become depleted, it is necessary to regrease at intervals consistent with the service. The following recommendations are offered as a guide in determining the relubrication period.

Guide bearings in vertical motors carry relatively light loads, and, under normal conditions of operation, can be regreased every three to five years. When conditions are more severe (high tem-

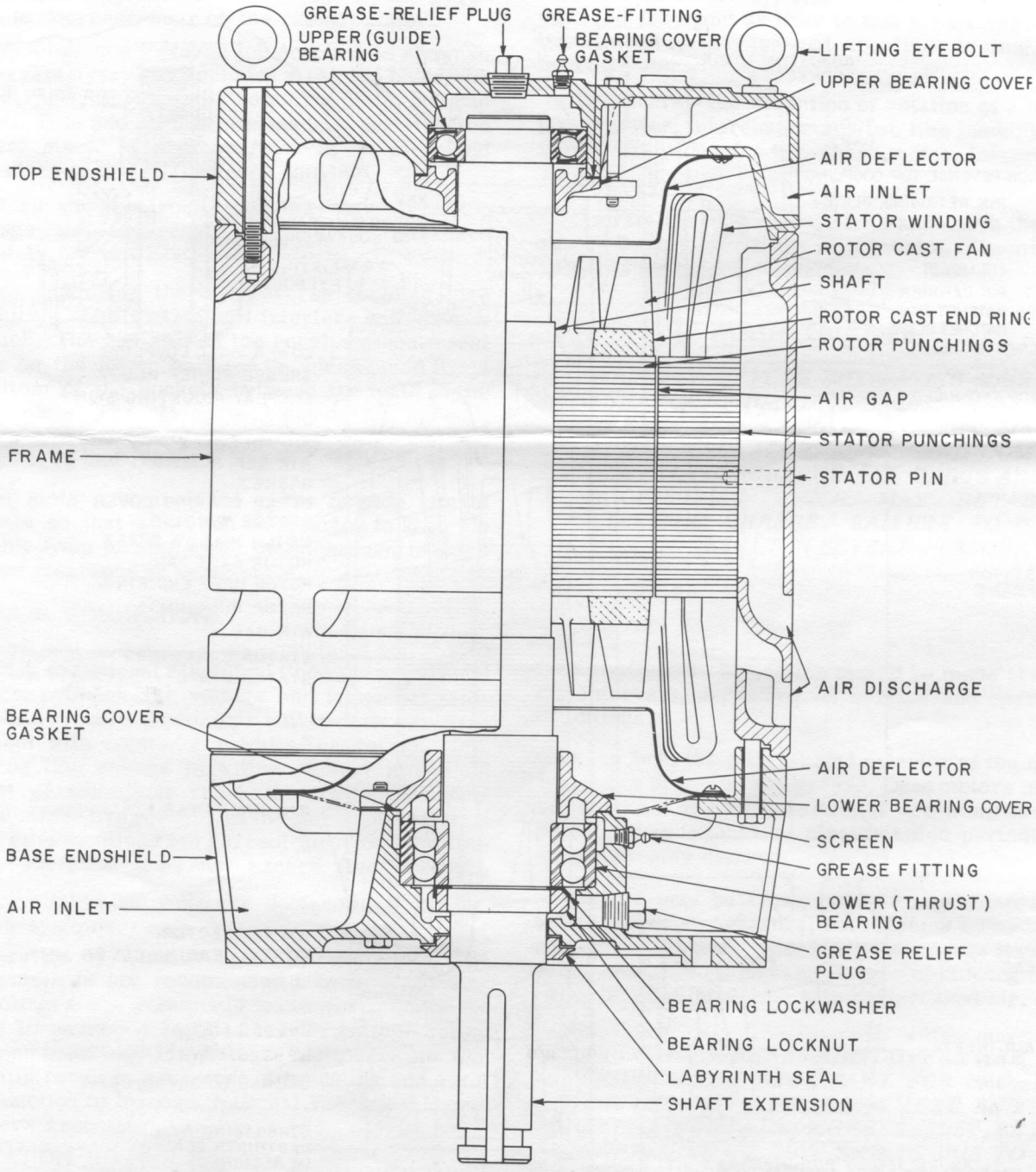


Fig. 3. Typical solid-shaft motor for continuous up-and-down thrust. (For standard down-thrust only, see bottom bearing arrangement in Fig. 2.)

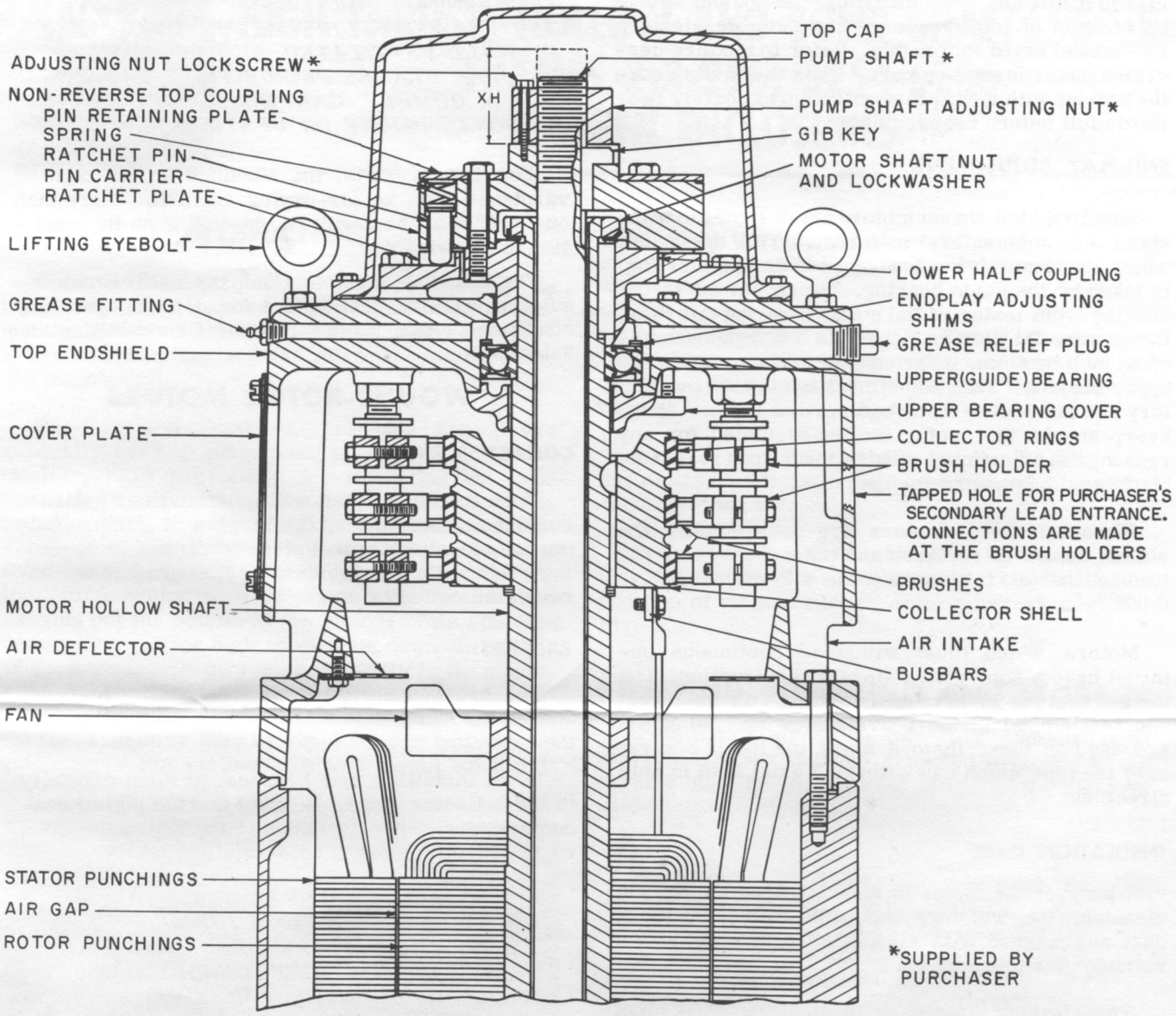


Fig. 4. Typical wound-rotor type motor, showing rings, brushes, etc.

peratures, dirty locations, motor running continuously, etc.), regrease every one to three years.

Regrease the thrust bearings of motors with speeds above 1800 rpm every 1000 hours of operation with the interval not to exceed three months. For motors with speeds 1800 rpm and below, regrease every 2000 hours of operation with the interval not to exceed six months.

Relubrication procedure is as follows. Remove the grease relief plug and free the relief passage of hardened grease. Wipe the grease fitting clean. Or, if no fitting is supplied, replace the 1/8-inch pipe plug with a standard fitting.

For best results, use GE long-life grease (No. D6A2C5). Take care to exclude dirt from the bearing housing and lubricant. With the motor at standstill, add grease, using a hand-operated gun until the grease begins to move in the relief passage. Allow the motor to run about ten minutes before replacing the relief plug.

For motors in storage and motors that are to stand idle for a prolonged period and be subject to moisture from condensation, the thrust bearing housing should be filled with grease to minimize corrosion. Add grease until it comes all the way out the relief passage. When the motor is again started, run it with the relief plug removed for about ten minutes to expel excess grease.

Since the above method tends to purge the bearing housing of used grease, complete removal of all grease should be required only at infrequent intervals. Whenever the motor is disassembled for gen-

eral cleaning and reconditioning, the housing should be cleaned of old grease with a suitable cleaning solvent and dried thoroughly. Refer to mixture described under insulation care. Pack the cavity above the bearing with new grease until approximately two-thirds full before reassembling.

END-PLAY ADJUSTMENT

Standard high-thrust motors are designed to withstand only momentary up-thrust. This up-thrust, which can exist for a few seconds during starting, is taken by the guide bearing. To prevent the thrust bearing from losing radial stability during this time, the motor end play is limited to a few thousandths of an inch by shims inserted in the housing above the upper bearing. This adjustment is made at the factory and need not be disturbed on a new motor. However, should the motor be disassembled for any reason, the adjustment must be made upon reassembly to avoid damaging the bearings.

Whenever these motors are reassembled, the shims should be replaced and the end play checked to see that it falls within the allowable 0.005 to 0.007 inch.

Motors which must withstand continuous up-thrust have a somewhat different construction. The thrust bearing is arranged to take this up-thrust and is clamped in the bearing housing. No shims are used in these motors since the lower bearing is of the type which can withstand axial load in both directions.

INSULATION CARE

Whenever the motor is disassembled for general cleaning, the windings should be brushed free of dust and washed with a cloth or brush wet with a suitable cleaning solvent.

The cleaning fluid used to clean the coils must have grease-dissolving properties, but must not affect the electric insulation or varnish. Many cleaning fluids in common use, which are suitable with respect to the foregoing, may be extremely hazardous because of their toxicity, inflammability, or both. The following mixture is a suitable solvent for cleaning windings, bearings, and the bearing housing:

25 percent methylene-chloride (if unavailable, trichlorethylene may be substituted)
70 percent Stoddard solvent (petroleum spirits)
5 percent perchlorethylene

WARNING: *WHEN USING THE ABOVE CLEANING FLUID, THE AREA MUST BE WELL VENTILATED AND SMOKING OR OPEN FLAMES PROHIBITED. FAILURE TO COMPLY CAN RESULT IN PERSONAL INJURY OR DEATH.*

For best results, the windings should then be varnished with an air-drying varnish. More than one coat may be required, depending on the condition of the winding.

The General Electric Company can furnish insulating varnish best suited for definite operating conditions. Consult the nearest General Electric Sales Office.

WOUND-ROTOR MOTORS

COLLECTOR RINGS

Keep the rings clean and maintain their polished surfaces. Ordinarily, the rings will require only occasional wiping with a piece of canvas or nonlinting cloth. Do not let dust or dirt accumulate between the collector rings.

BRUSHES

The brushes should move freely in the holders, and at the same time make firm, even contact with the collector rings.

When installing new brushes, fit them carefully to the collector rings. Be sure that the pigtail conductors are securely fastened to, and make good contact with, the brush holders.

CAUTION: *EXTERNAL RESISTANCE MUST BE PROVIDED IN THE SECONDARY CIRCUIT TO PREVENT HIGH INRUSH CURRENT AND THEREBY DAMAGING THE COLLECTOR RINGS AND BRUSHES.*

RENEWAL PARTS

When ordering parts, give description and state quantity of parts desired, together with the nameplate rating and model and serial number of the motor. For couplings, also specify the type, bore and keyway size.

Requests for additional copies of these instructions or inquiries for specific information should be addressed to the nearest office of the General Electric Company.

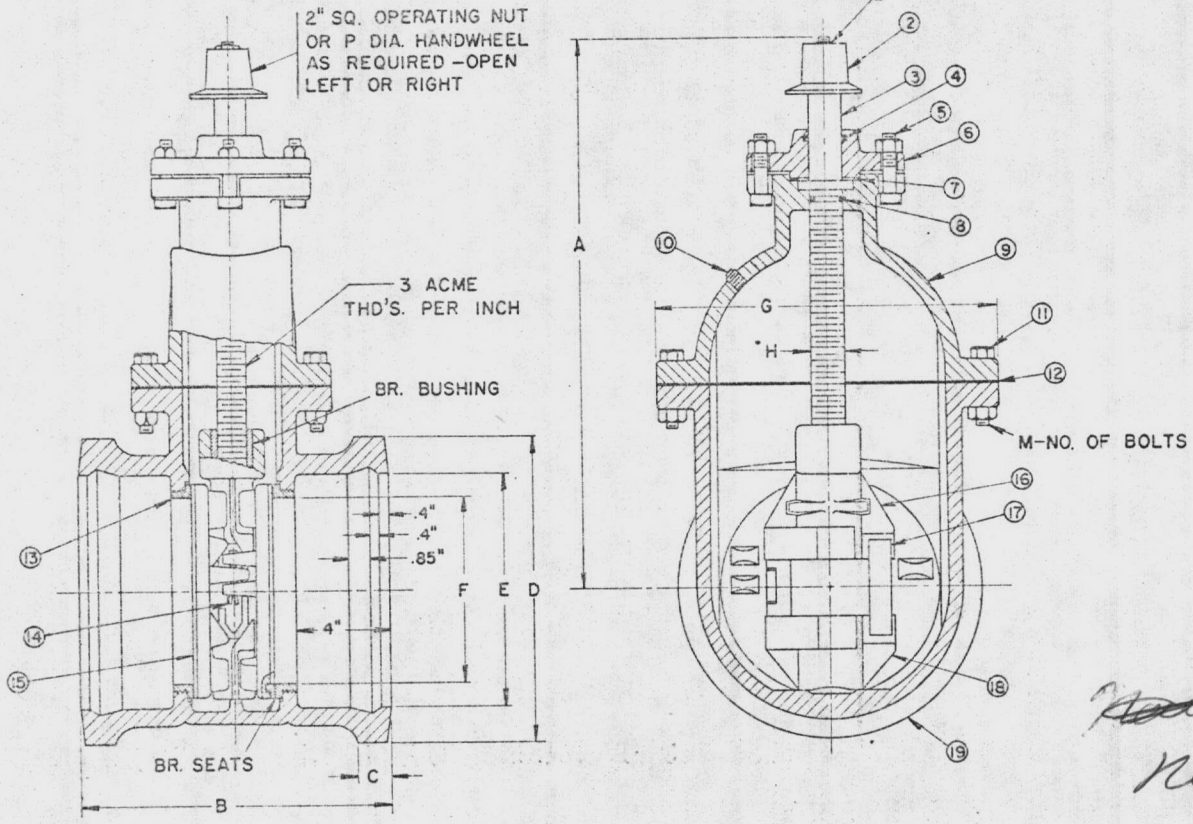
GENERAL ELECTRIC COMPANY • VERTICAL MOTOR PRODUCTS SECTION • SAN JOSE MOTOR PLANT
SAN JOSE, CALIFORNIA 95114

GENERAL ELECTRIC

3–74 (5M)

PRINTED IN U.S.A.

DRG. NO. 5886 4"-14" A-2380-5 GATE VALVE - N.R.S. WITH "O" RING PACKING — HUB END AWWA { 4" 12" 200# W.P. / 14" 150# W.P.
" A-2380-6 " " " " " " " FLG. " "



PARTS LIST

ITEM	DESCRIPTION	NO. REQ'D	MATERIAL	ASTM	
1	CAP NUT	1	STEEL		ASA B18.2-PLTD.
2	OPERATING NUT	1	CAST IRON	A126	CL. B
3	STEM	1	BRONZE	B138	ALLOY A ½ HARD
4	"O" RING PACKING	1	RUBBER		BUNA N
5	FLANGE BOLT	4	STEEL		ASA B18.2-PLTD.
6	STUFFING BOX	1	CAST IRON	A126	CL. B
7	GASKET	1	FIBRE		
8	"O"-RING PACKING	1	RUBBER		BUNA N
9	BONNET	1	CAST IRON	A126	CL. B
10	PIPE PLUG	1	IRON		
11	JOINT BOLT	M	STEEL		ASA B18.2-PLTD.
12	JOINT GASKET	1	COMPOSITION		
13	SEAT RING	2	BRONZE	B62	
14	DISC PIN	2	BRONZE	B21	ALLOY A ½ HARD
15	DISC	2	CAST IRON	A126	CL. B
16	TOP WEDGE NUT	1	CAST IRON	A126	CL. B
17	SIDE SPREADER	2	BRONZE	B62	
18	BOTTOM WEDGE	1	CAST IRON	A126	CL. B
19	BODY - HUB END	1	CAST IRON	A126	CL. B
20	BODY - FLANGE END	1	CAST IRON	A126	CL. B

1975

~~1000~~ New Wells at C.H.B.

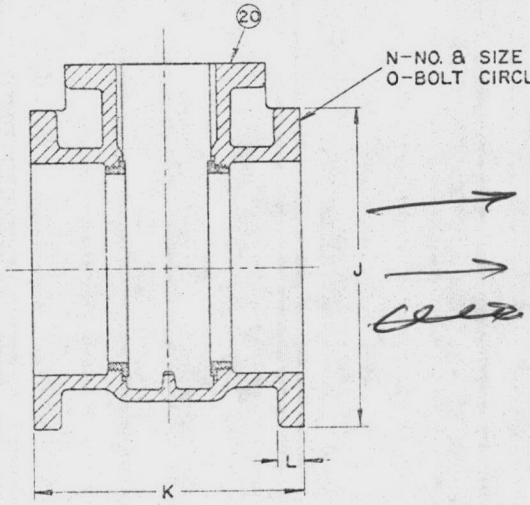


TABLE OF DIMENSIONS

VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P			NO. TURNS TO OPEN	
4"	15	12 5/16	1½	8.30	5.70	4	8 7/8	1⅛	9	9	15/16	8	8 — ¾	7½	11			14½	
5"	17¼	12 5/16	1½	9.46	6.76	5	10⅛	1¼	10	10	15/16	10	8 — ⅞	8½	13			17½	
6"	18½	12 11/16	1½	10.60	7.80	6	11 13/16	1¼	11	10½	1	10	8 — ⅞	9½	13			20½	
8"	22⅛	13¼	1½	13	10	8	14 5/8	1⅜	13½	11½	1⅛	12	8 — ⅞	11¾	14			27	
10"	26½	14⅛	1½	15.30	12.10	10	16 11/16	1½	16	13	1 3/16	12	12 — 1	14¼	16			33½	
12"	29 7/8	14 3/8	1½	17.60	14.20	12	19	1⅝	19	14	1¼	14	12 — 1	17	16			39½	
14"	34⅛	15⅝	1½	20.05	16.45	14	22½	1¾	21	15	1⅜	16	12 — 1⅛	16¾	18			46	

REPLACES DRG. NO. 5886 DATED 10-24-57 BY R.C.J.

MUELLER CO.
CHATTANOOGA, TENN.

CORNERS HAVE ROUNDS FILLETS UNLESS NOTED

DRAWN BY	ORTON	10-25-60	APPROVED
TRACED "			
CHECKED	W.R.D.	1-30-61	
PASSED "			

TOLERANCES UNLESS OTHERWISE SPECIFIED
MACHINE FINISH HOLD TO ±
MACHINE FINISH HOLD TO ±
DO NOT SCALE DRAWING

QUALITY CONTROL LABORATORY REPORT
MISCELLANEOUS BACTERIOLOGICAL ANALYSIS OF WATER

MCBCL 11330/8 (REV. 4/78)

WATER TYPE	SAMPLE COLLECTED BY	DATE COLLECTED
well	Mundt	10 Oct 78

LOCATION	MARKED	COLIFORM TOTAL	COLIFORM FECAL
			HARDNESS
CHB -			
BB43		232	
44		134	
220		148	
221		148	mg/l Hardness as $CaCO_3$

REMARKS

SIGNATURE [signature] DATE 10 Oct 78

COPY TO

- ☐ NREAD
- ☐ UTILITIES DIRECTOR
- ☐ WATER TREATMENT PLANT (GENERAL FOREMAN)
- ☐ BASE PREVENTIVE MEDICINE
- ☐ MCAS PREVENTIVE MEDICINE
- ☐ _____

NRY VON OESEN AND ASSOCIATES
ONSULTING ENGINEERS
AND PLANNERS

TELEPHONE 763-0141

611 PRINCESS STREET · P. O. DRAWER 2087
WILMINGTON, NORTH CAROLINA 28401

	ORIG	INT
1	80	7
2	510	
3		
4		
5		

December 2, 1974

Resident Officer in Charge of Construction
Naval Facilities Engineering Command
Building 1005
Camp Lejeune, North Carolina 28542

RE: Contract N62470-74-C-1319
Additional Water Wells
Courthouse Bay Area

Dear Sir:

We have reviewed the pump test information submitted by Corbin Construction Company for the referenced project. We note there is no step rate test information as set out in Paragraph 7B.5. If such tests were run, we would appreciate copies of the results.

The specifications call for two wells having a total capacity of 500 GPM, with neither well being rated higher than 300 GPM. The tests indicate that Well No. 1 produces 150 GPM and Well No. 2 produces 350 GPM. The drawdown in both wells at these rates is at the maximum allowable (10 feet above the top of the uppermost screen). Technically, this production does not meet the specifications since Well No. 2 is rated too high. We have no objection to pumping the wells at these rates, but we would suggest that the water plant operator be consulted to see if this variation in rates can be accepted at the plant without problem.

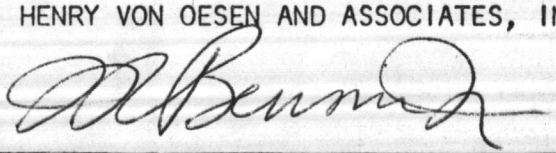
If it is concluded that these rates are acceptable, we would suggest pump characteristics as follows:

Well No.	Capacity:GPM	TDH:Feet	Pump Setting:Depth of Suction Feet	HP
			airline	
No. 1	150	78	60'	55	7½
No. 2	350	90	70'	64	15

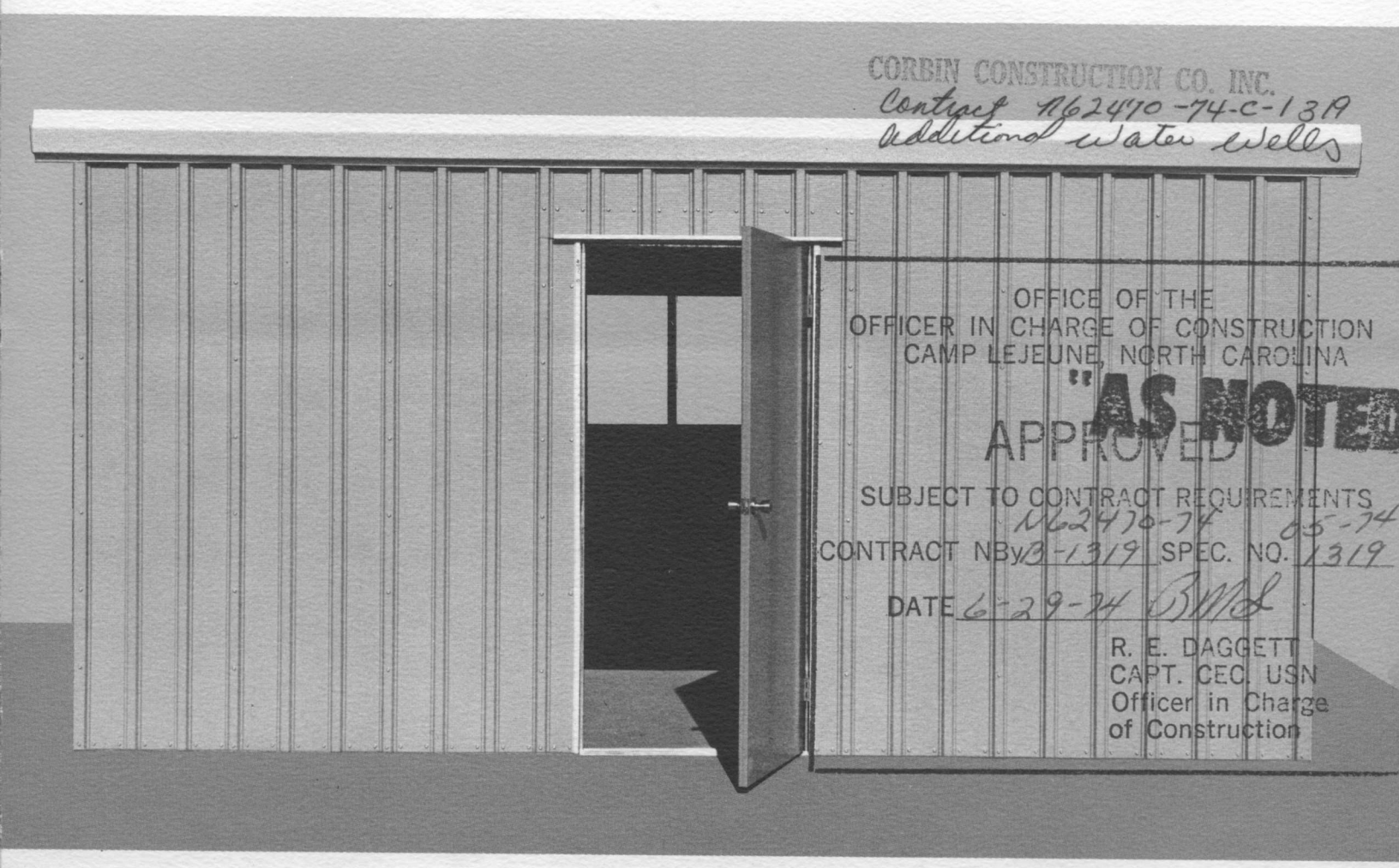
If additional information is needed, please let us know.

Very truly yours,

HENRY VON OESEN AND ASSOCIATES, INC.



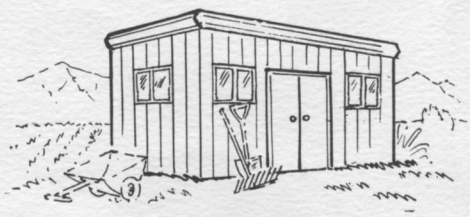
NEW FROM PASCOE



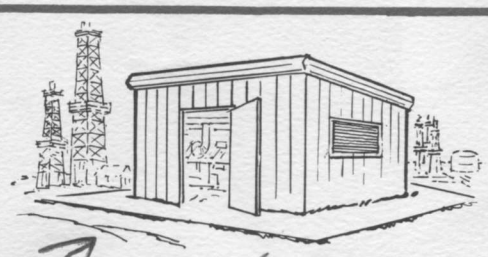
Easy to erect, all-steel P-102 Panel Building with self-framing skin stressed walls!

sturdy . . . lightweight . . . portable . . . low cost . . . in stock now in 25 different sizes.

Sales or Field Offices

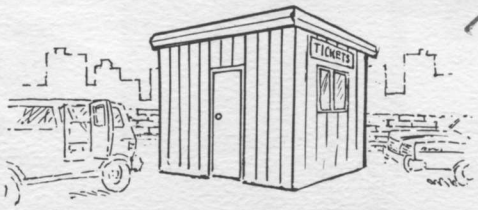


Storage and Workshops

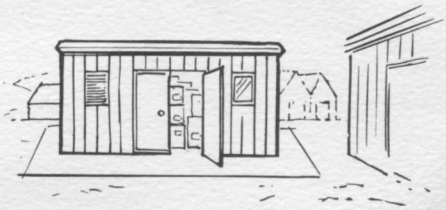


Pumphouses, Weigh Stations

Summer Cabins; Mountain, Desert



Ticket, Parking Lot Booths, Guard Houses

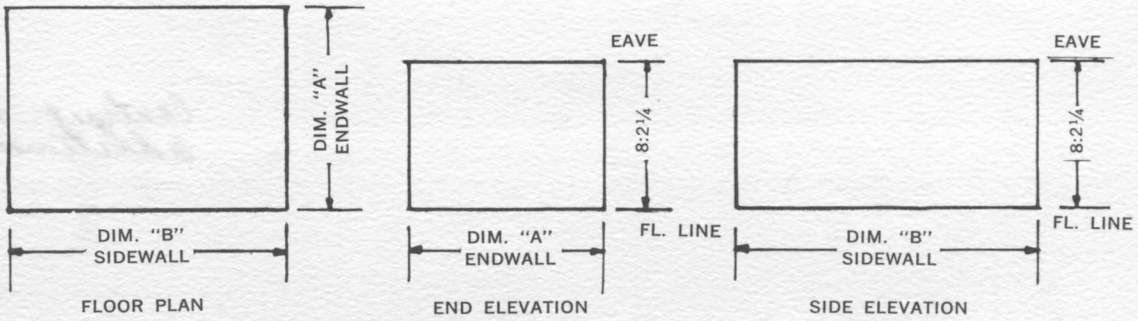


Parts Shelters, Warehouse Additions

TWO HANDY MEN CAN ERECT A P-102 BUIL

A concrete slab floor is recommended, but for many temporary uses, t

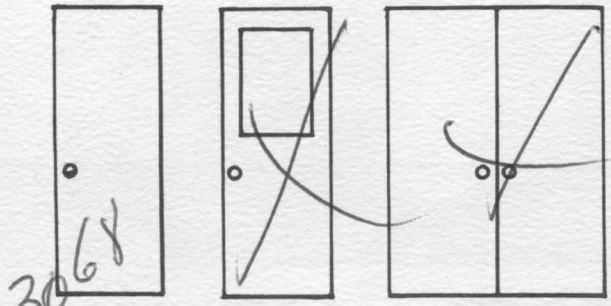
BASIC PLAN ELEVATIONS



AVAILABILITY CHART							
WIDTH DIM. "A"	LENGTH DIM. "B"						
6	6	8	10	12	16	20	24
8		8	10	12	16	20	24
10			10	12	16	20	24
12				12	16	20	24
16					16	20	24

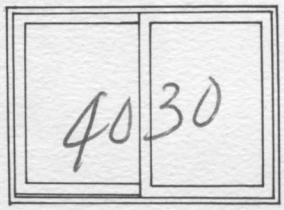
The Pascoe P-102 Panel Building is available in 25 different sizes, from widths of 6′ to 16′ and in lengths from 6′ to 24′. This means that you may select a P-102 Building as small as 6′ x 6′ and as large as 16′ x 24′. All buildings are a nominal 8′ high.

ACCESSORIES



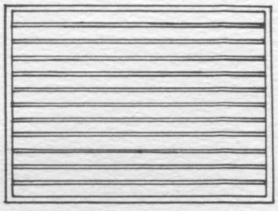
FLUSH HINGED DOORS

Available in flush honeycomb metal, with or without glass. Also available in wood, solid door only. Doors are offered in 3′ and 6′ widths, 6′8″ high.



WINDOWS

Windows are available in 4′ x 3′ or 2′ x 3′ sizes and are of the sliding type for easy opening and closing. Screens are included with all windows.

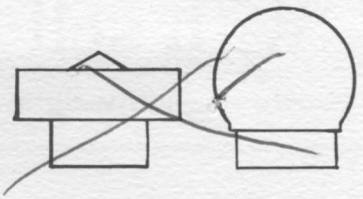


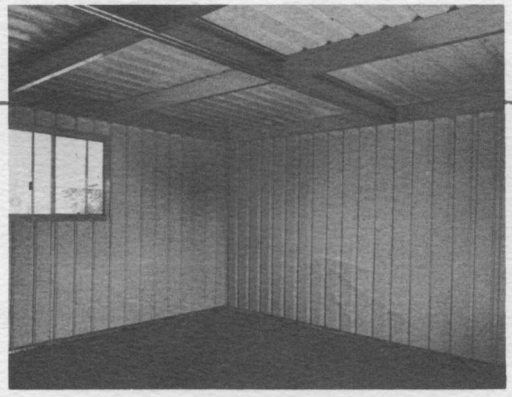
LOUVERS

Pascolor White fixed type louvers are available in 4′ x 3′ or 2′ x 3′ sizes. Mesh insect cloth screens are provided with all louvers.

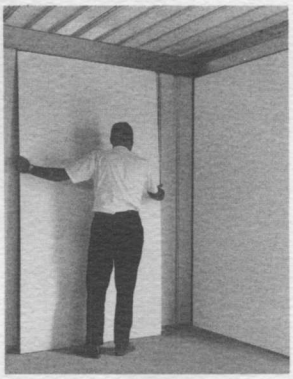
VENTILATORS

Either fixed or rotary type ventilators may be ordered. Both are 6″ in diameter at the base and are Pascolor White for color coordination with the Pascolor roof panels.





Maximum Interior Space



Easy to Insulate

CONSTRUCTION DETAIL

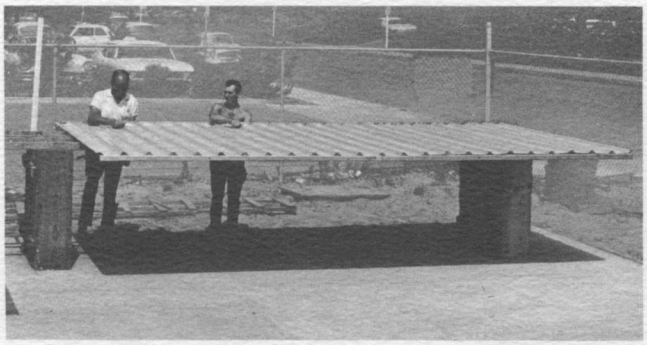
The Pascoe P-102 Panel Building is literally put together with nuts and bolts, requiring no field drilling or welding of any kind. Maximum interior clearance is achieved, since there are no obstructions from bulky structural members.

Buildings may be easily insulated with any standard insulation material so that the owner may make his structure as comfortable as he desires. The P-102 Building may also be heated and air conditioned for complete temperature control.

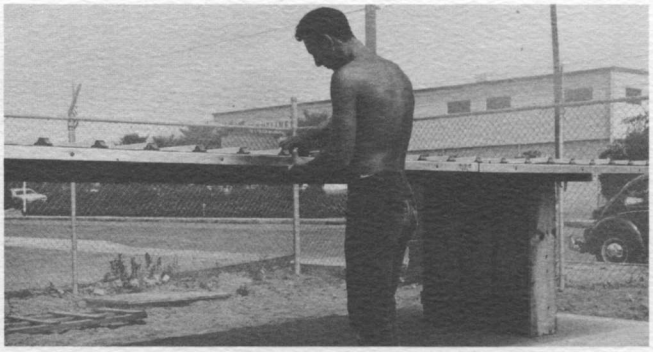
DING *IN HOURS* WITHOUT SPECIAL TOOLS!

e Pascoe P-102 Panel Building may be constructed on movable skids.

BASIC CONSTRUCTION STEPS

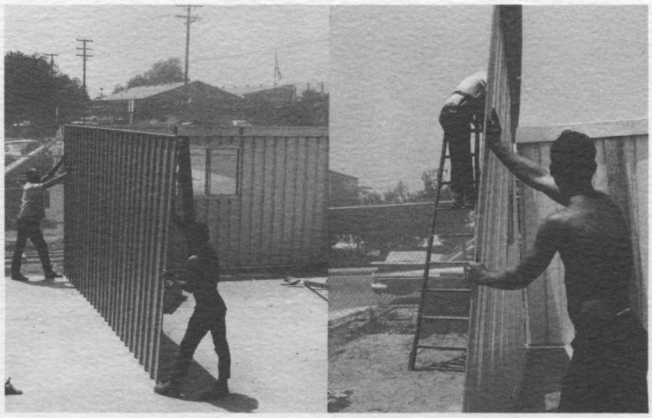


- Lay out the required panels for one wall on horses, making sure the pre-punched side lap holes line up.
- Bolt the panels together at the side laps.

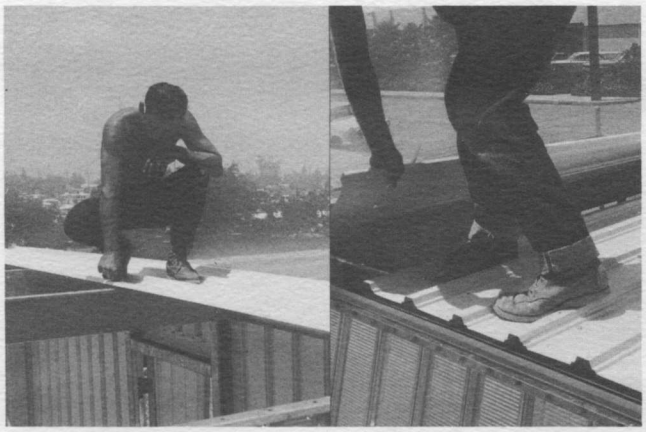


- Bolt the required base members and base flashing to the bottom of the wall panels.
- Bolt corner angles to eave members.
- Bolt eave members to the top of the assembled wall panels.
- Follow same procedure for balance of walls.

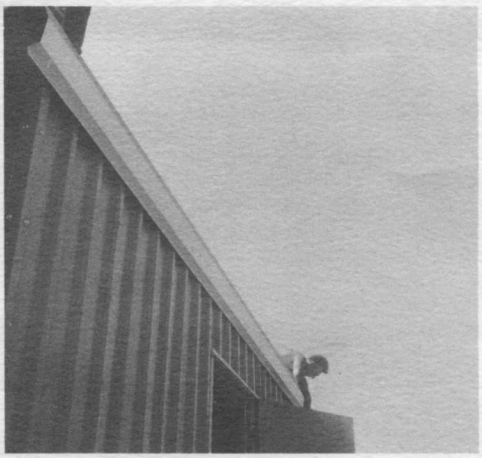
- Install windows and door frames while walls are on horses.



- Raise assembled walls into position over anchor bolts and brace.
- Bolt the corners together at the eave members and install corner flashing.
- Tighten all anchor bolts and remove bracing.



- Install strut members, ridge members (where required) and roof panels. Commence installing roof panels by applying the first panel so that the center of the first rib is centered over the end wall eave member.
- Insert foam closure plugs and apply mastic sealant as the roof panels are being installed.
- Install roof ventilators.



- Install white trim to complete installation.

For complete erection details, see Pascoe P-102 Panel Building Erection Instructions.

FEATURES

SIMPLE TO ERECT
- Put together with nuts and bolts – no field drilling or welding.
- All components including wall and roof panels are factory pre-punched for perfect, easy self-alignment.

STRONG
- Rugged self-framing skin stressed walls are of 24 gage steel construction to withstand abuse.
- All steel construction is featured throughout to provide maximum strength at the lowest cost.

PORTABLE
- Building may be completely demounted and re-erected at another site.
- Building may be transported, intact, from one location to another.
- Building may be installed on new or existing concrete slab, or on movable skids.

MAXIMUM INTERIOR SPACE
- There are no obstructions from bulky structural members.

ATTRACTIVE
- Clean, modern design, enhanced by white architectural trim.
- Available in Pascolor – Desert Beige walls, white roof, or galvanized roof and walls.

WEATHERTIGHT DESIGN
- Tight fitting roof system and foam closure plugs assure a dry, weather-free interior.

FLEXIBLE
- A wide assortment of accessories may be located on the building of your choice. Option of wide double doors permits entry of large equipment often used on construction jobs.

LOW COST
- The Pascoe P-102 Panel Building is an economical investment. See price list for complete details.

QUICK DELIVERY
- These buildings are available now from stocks at Pascoe plants in Columbus, Georgia and Pomona, California. Merely select the proper size buildings and accessories to meet your needs; your order will be filled immediately.

P-102 PANEL BUILDING SPECIFICATIONS

GENERAL
- All roofing and siding shall be 24 Gage Pascoe Steel Panels.
- Panel Configuration – All panels are full length 2'0" wide, with four 1" high ribs spaced at 8" on center.
- All miscellaneous members shall be galvanized steel.
- Roof Slope – Nominally flat roof with adequate pitch to prevent water standing on roof.
- Design Load – Based on actual tests conducted by an independent testing laboratory.

DESIGN LOADS	PROOF LOAD	ALLOWABLE LOAD BASED ON SAFETY FACTORS SHOWN		
		2.0	2.5	3.0
LIVE LOAD	90.0 PSF	45.0 PSF	36.0 PSF	30.0 PSF
WIND LOAD	75.0 PSF	37.5 PSF	30.0 PSF	25.0 PSF

FASTENERS
- Roof and Wall – All fasteners shall be ¼" diameter x ½" long cadmium plated, integral washer head bolts and nuts.

WINDOWS
- Available in 4' x 3' or 2' x 3' sizes.
- Windows shall be provided with a continuous silicone treated mohair weather stripping around the perimeter.
- Windows shall be of the sliding type, glazed with Single Strength Grade B glass.
- A locking handle shall be provided on the interlocking (stile) of all sliding windows. The locking handles shall be spring loaded to lock automatically upon closing and to prevent opening from the exterior.
- Screens included for sliding windows shall be 18" x 14" mesh fiberglass cloth.

LOUVERS
- Available in 4' x 3' or 2' x 3' sizes, fixed type.
- All material shall be galvanized steel of 24 gage minimum thickness.
- Screens included shall be 18" x 14" mesh insect cloth.
- Finish shall be Pascolor White.

FLUSH HINGED DOORS
- Available in 3' widths for all walls, and 3' or 6' widths for walls 12' and longer – 6'8" high.
- All metal doors shall be 1⅜" thick, flush honeycomb type, solid panel or half glass.
- All material for metal doors shall be 20 gage minimum thickness.
- Metal doors shall be bonderized and shall receive one shop coat of grey primer, oven baked.
- Wood doors shall be 1⅜" thick, exterior grade, hollow core doors, solid panel only.
- Cylindrical locksets shall be utilized.
- One pair of full mortised hinges shall be provided.
- Door frames shall be galvanized steel of 16 gage minimum thickness.
- All single swing doors shall be hinged right.
- Glazing for half glass metal doors shall not be furnished by Pascoe Steel Corporation.

VENTILATORS
- Available in fixed or rotary type, 6" at the base.
- All material shall be galvanized steel of 24 gage minimum thickness.
- Exhaust capacity, based on a 4 mph wind with a 10 degree temperature differential, is 65 cpm for fixed type and 215 cpm for rotary type.
- Finish shall be Pascolor White.

Complete specifications of Pascoe Buildings and Pascolor Panels plus construction details are available through your local Pascoe Builder/Contractor or direct from Pascoe Steel Corporation. Specifications and details subject to change without notice.

If your needs go beyond the P-102 Panel Building, you may also choose from over 2,600 Pascoe standard designs; either with unobstructed floor space up to 170' clear span or economical modular styles in widths up to 300'. You'll want to check the many exclusive Pascoe features with your local Franchised Builder today.

PASCOE STEEL CORPORATION

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