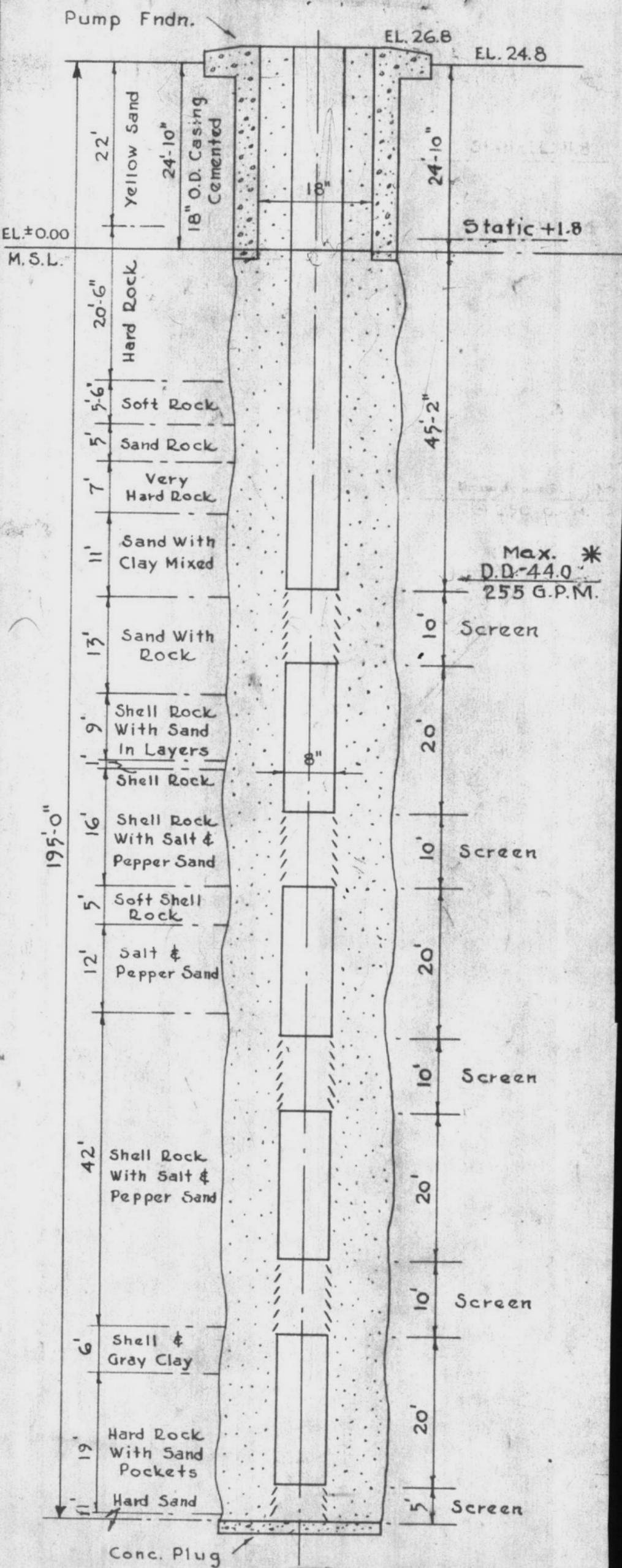
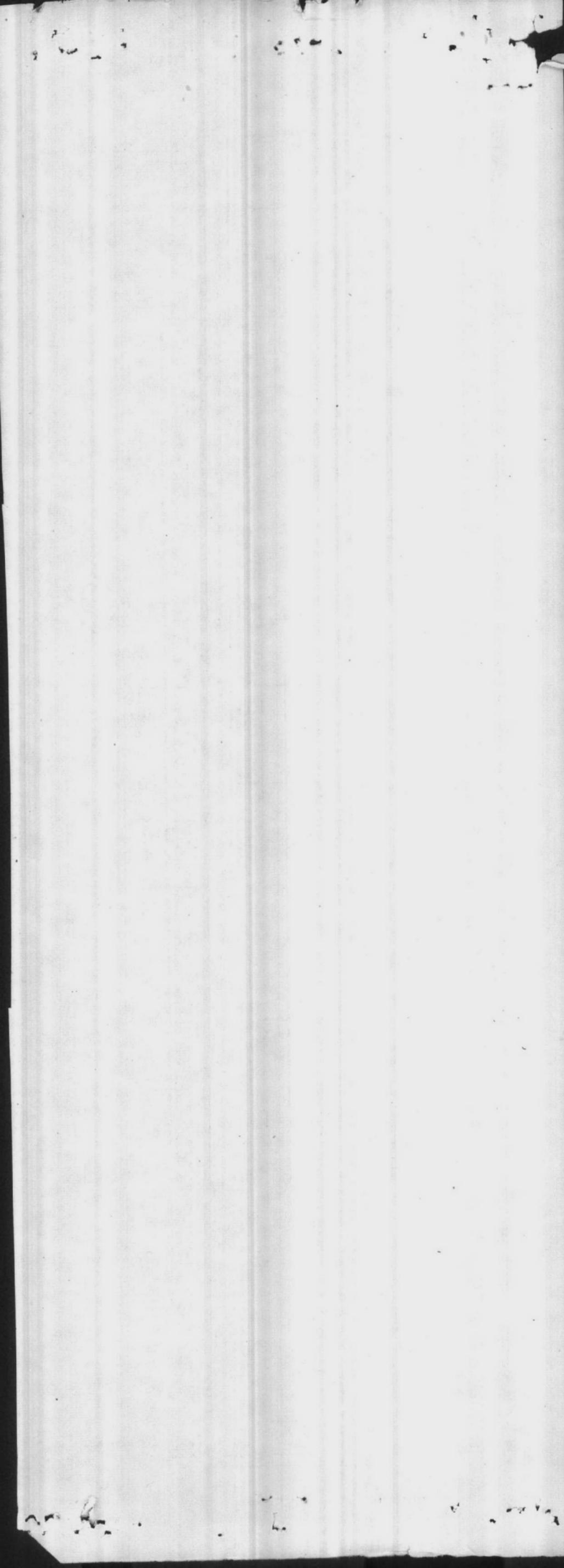


250 G.P.M. — DUAL DRIVE — 10 H.P.
 230 " " " actual " D.D.-397



D.T.A. WELL No: 3



603

W/O 195

P/O 70

A/L 6.3

S/L 19

P/L 58

D/D 39

GPM 157

PSI 60

DATE 12/31/87

TK2

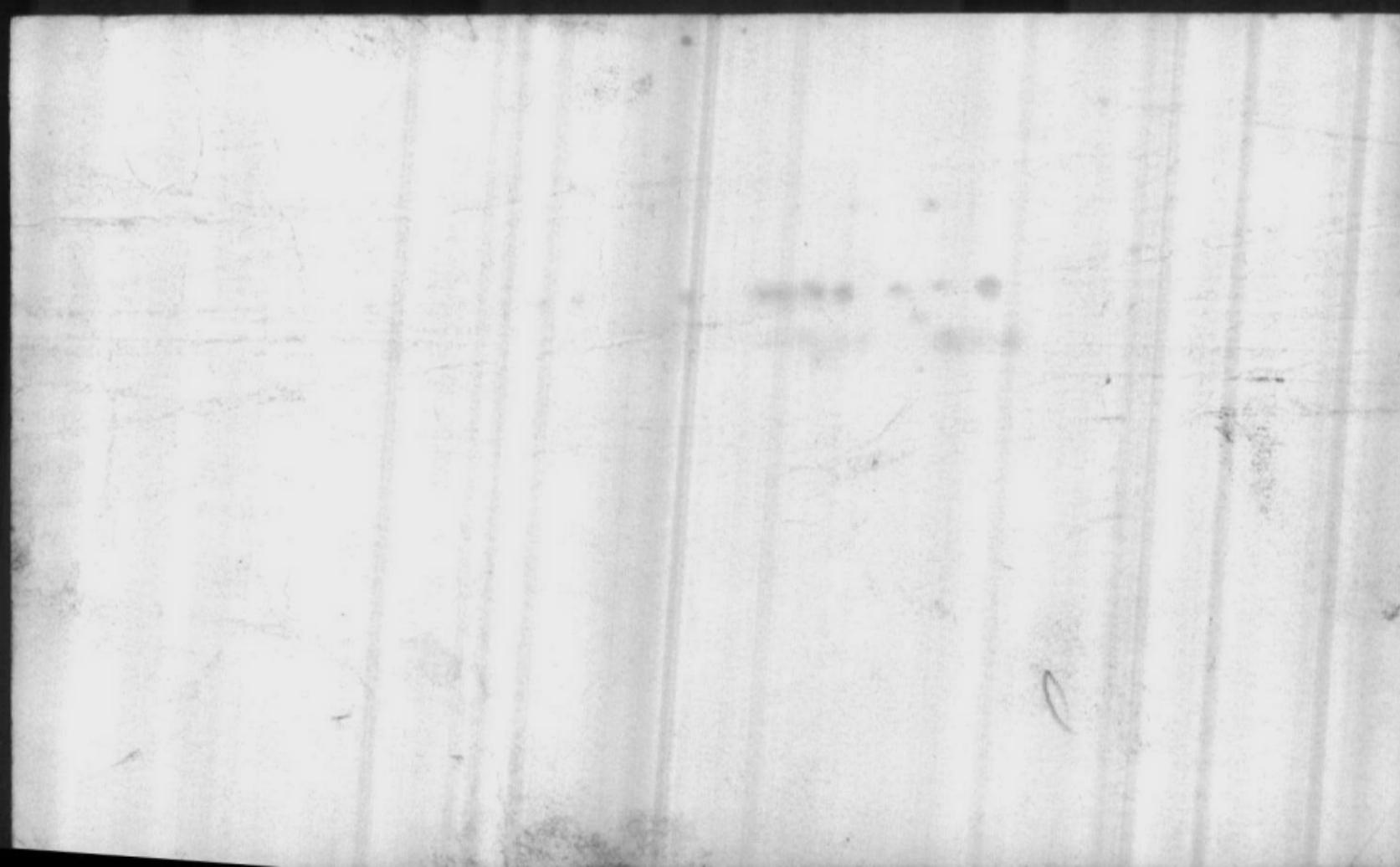
18

58

40

149

60



SOURCE INFORMATION GROUND WATER

Date Form Completed

M M D D Y Y
0 1 2 4 9 5

PWSID
0467041

Owner Assigned source Code

603

Well Name (If purchase, name of system)

HADNOT POINT 603

Code

5

G=Ground
W=Purchase/G
Y=G w/direct influence
Z=W w/direct influence

If Purchase, seller ID#

Source Begin Date

M M Y Y
M M Y Y

Source exempt— SWTR?

Y
 N

Direct Influence Date

M M D D Y Y

Availability

P

P=Permanent
E=Emergency
S=Seasonal
I=Interim
O=Other

Location of well within the system (If purchase, location of master meter)

HOLCOMB BLVD

Latitude (N)

3 4 4 0 1 0

Longitude (W)

0 7 7 2 0 3 2

How Determined

G=GPS
 M=Map
 S=Surveyed

GPS Data

Q# or DOP #

No. of Sats. Locked on

(If purchase, use seller's primary source lat/long)

Vulnerable (VOCs)

Y
 N

Assessment Date

M M D D Y Y

ENTRY POINT INFORMATION

Use Code

C
C=Ground/Permanent
D=Ground/non-permanent

Availability

P
P=Year-round
E=Emergency
S=Seasonal
I=Interim
O=Other

Owner Assigned Entry Point Code

100

Entry Point Name

HP603MCR HADNOT PT WTP

Location:

Well Site: Owned or controlled? (Y,N) Control Area (100' radius)? (Y,N) If no, explain:

Sources of pollution/distance: Hwy @ 75'; PX parking lot at 5'

Surface water within 200'? (Y,N) If yes, actual distance feet If yes, bact. samples collected? (Y,N)

Adequate slope? (Y,N) Flooding? (Y,N) Maintenance: OK

Well House: Free of stored materials? (Y,N) Properly drained? (Y,N) Locked? (Y,N)

Condition of house: OK Type of freeze protection: None

Well: Diameter: 8" Type: GRAVEL PACK Yield (gpm): 133 Properly sealed? (Y,N)

Properly vented? (Y,N) Casing depth 70 ft. (If unknown, put 'UNK') Well depth: 195' Meter available? (Y,N)

Concrete slab adequate? (Y,N) If no, explain: Size: 10x12

Size of blow-off: 3" (C) Sample tap: Before treatment? (Y,N) After treatment? (Y,N)

Pumps: Capacity: GPM: 133 HP: 15 Pump intake depth: 90 Auxiliary Power? (Y,N)

Type pump: VERTICAL TURBINE Height above floor (pump/casing): 15" /

Storage at well site: Elev: Hydro: Ground:

If hydroautomatic, air volume control? (Y,N) Safety valves? (Y,N) Coded? (Y,N)

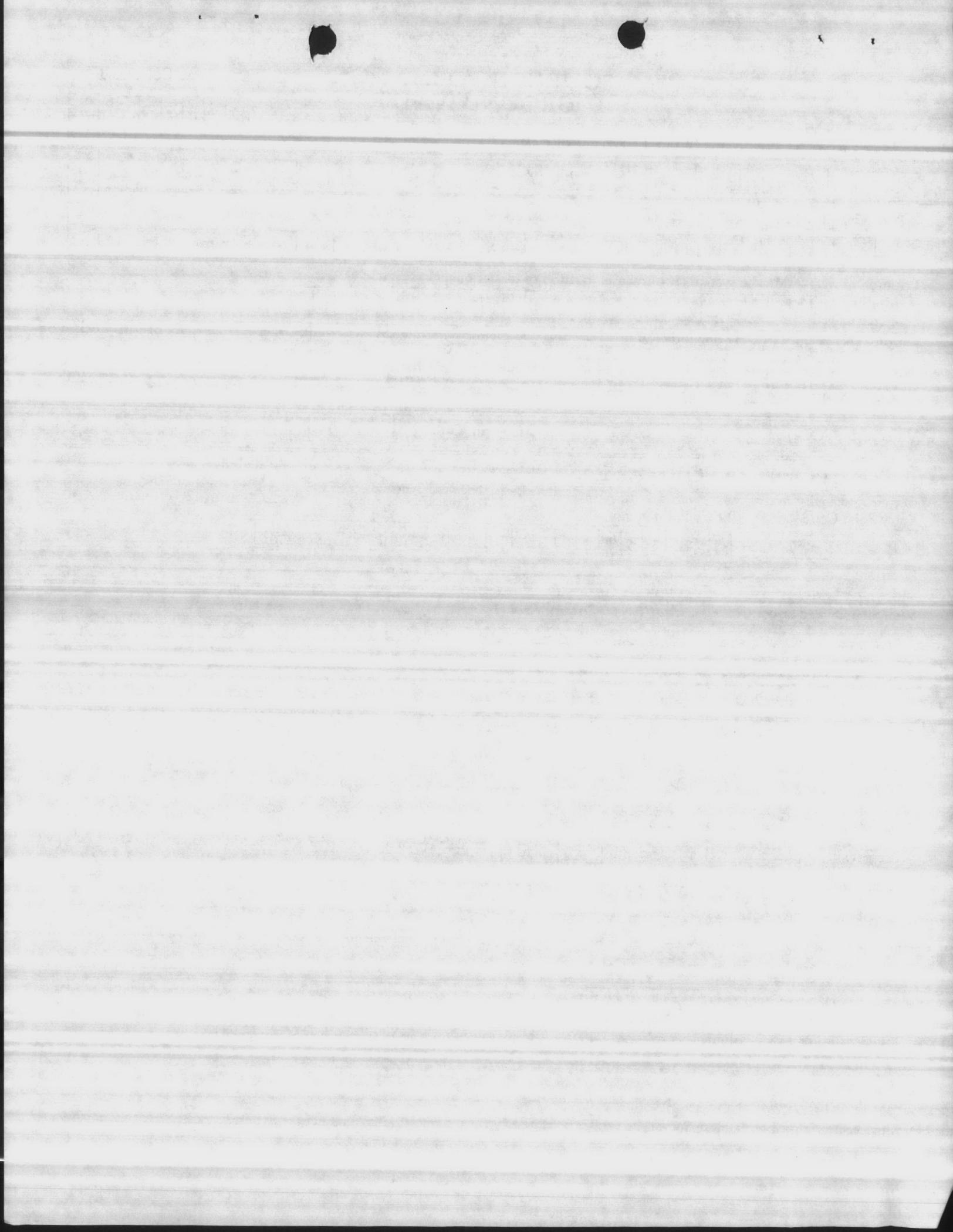
High service pumps: 1. gpm hp 2. gpm hp 3. gpm hp Auxiliary Power? (Y,N)

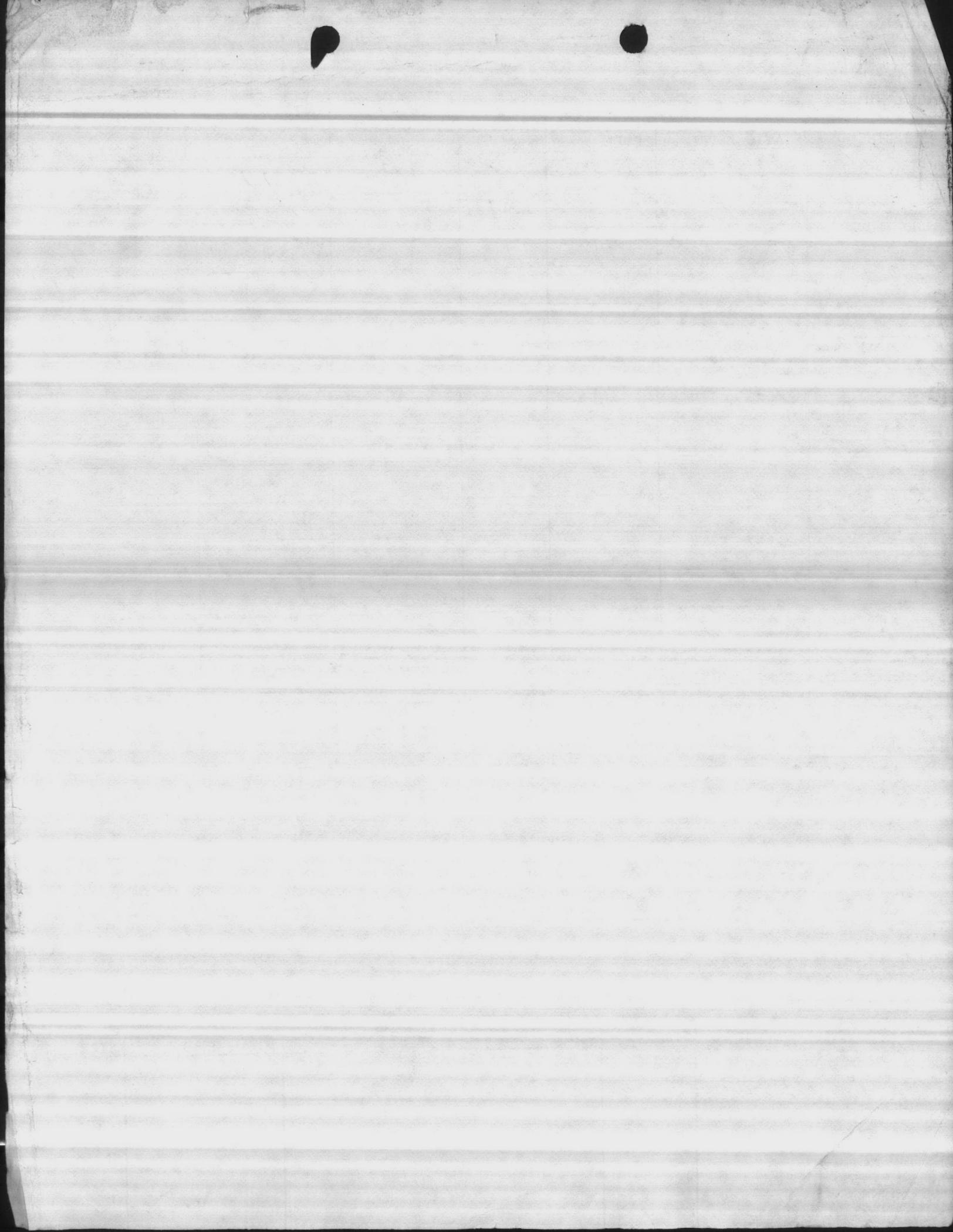
Is the water treated at this well? (Y,N) If yes, complete back of form.

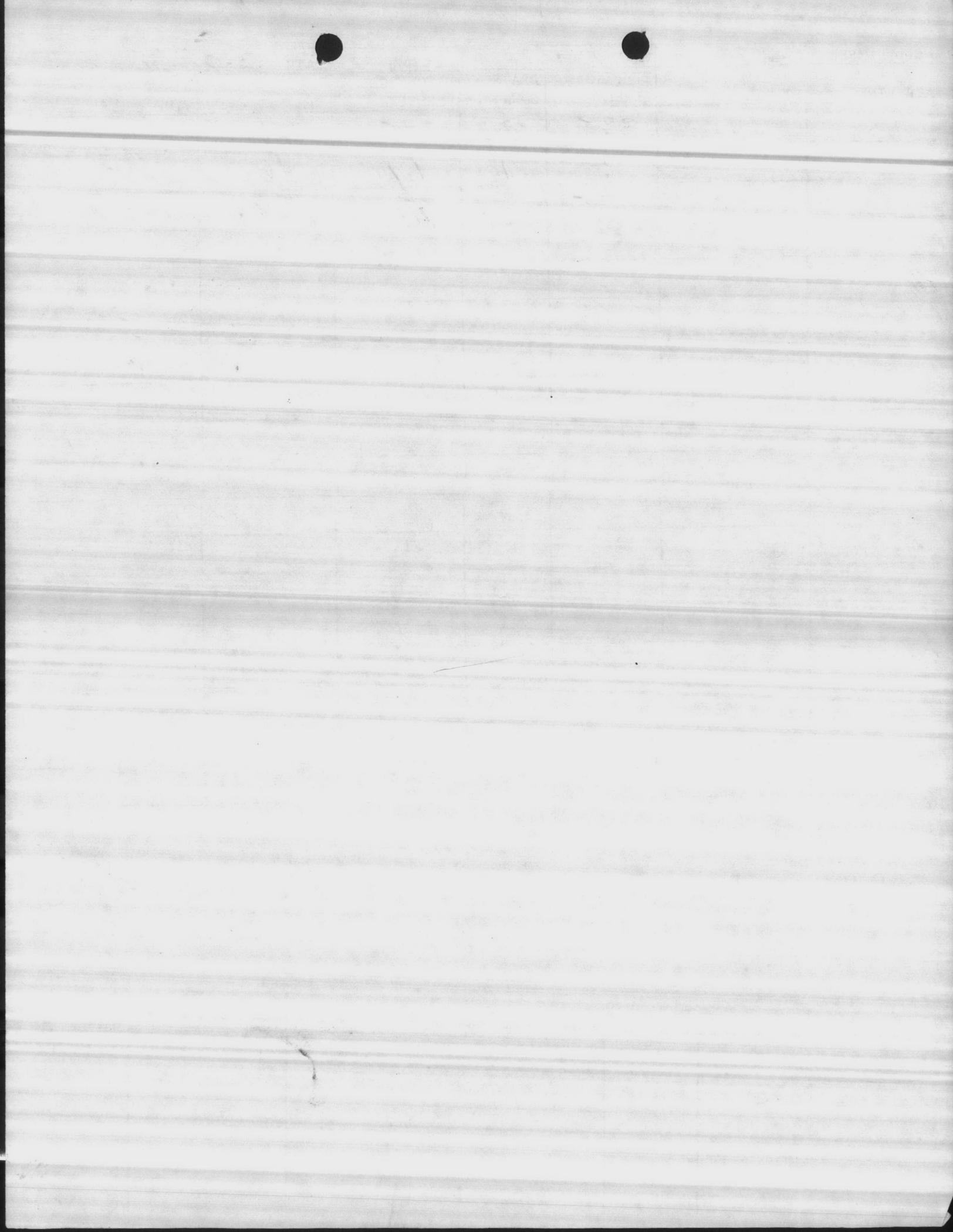
If other wells are treated here, which ones? If treated elsewhere, where? HP-20 PLANT

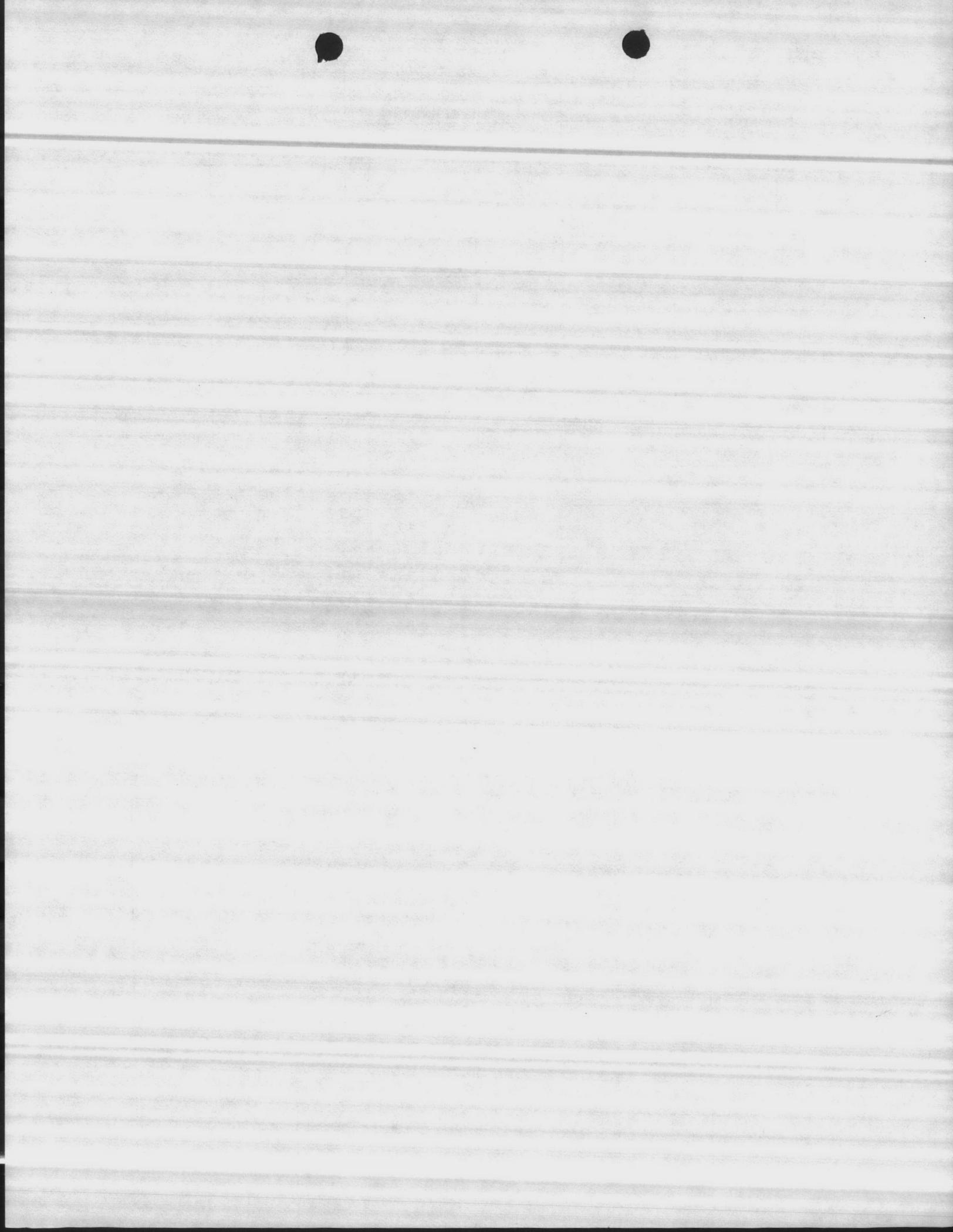
If purchase, retreat? (Y,N) If yes, complete back of form.

1) No vent
2) No meter

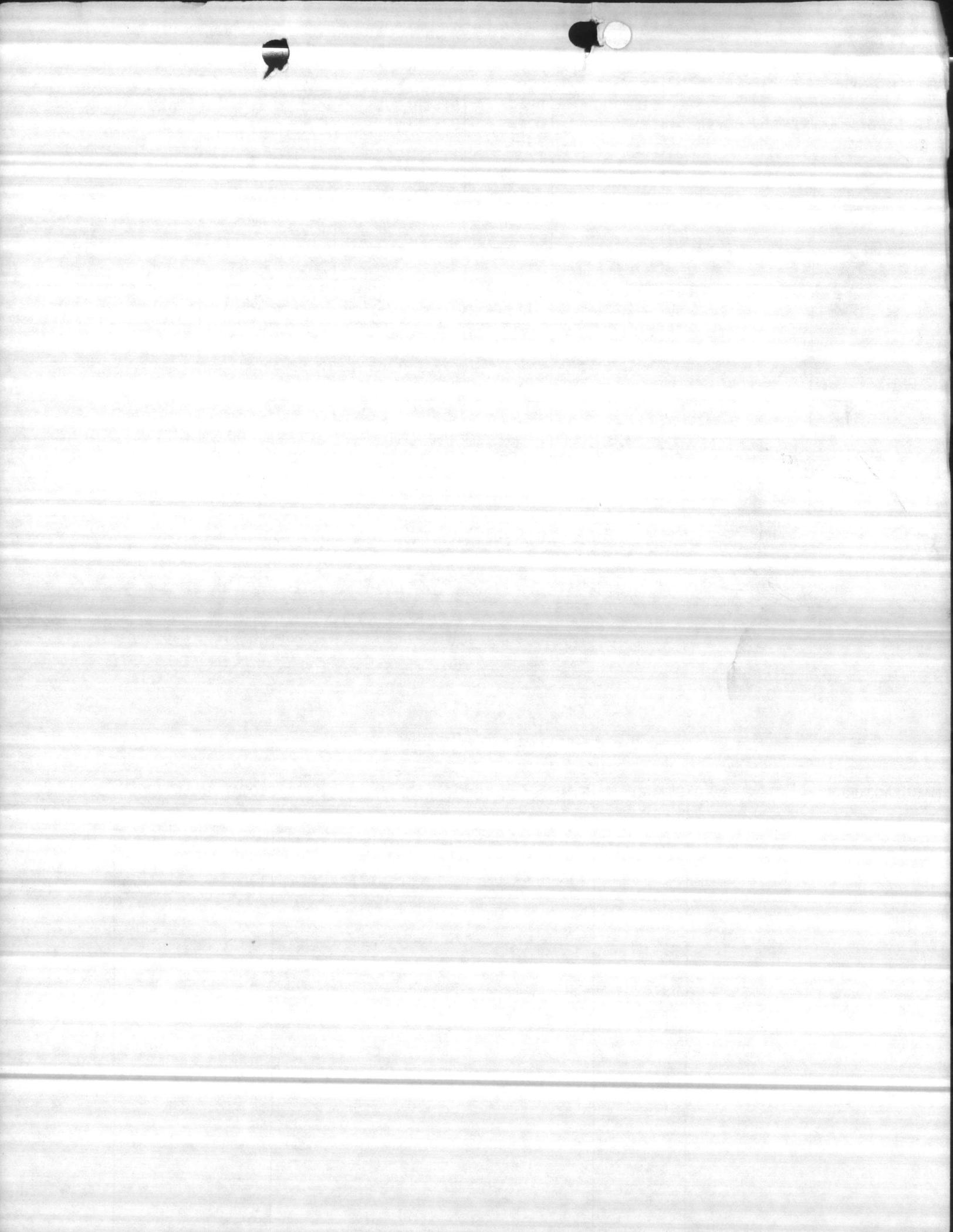


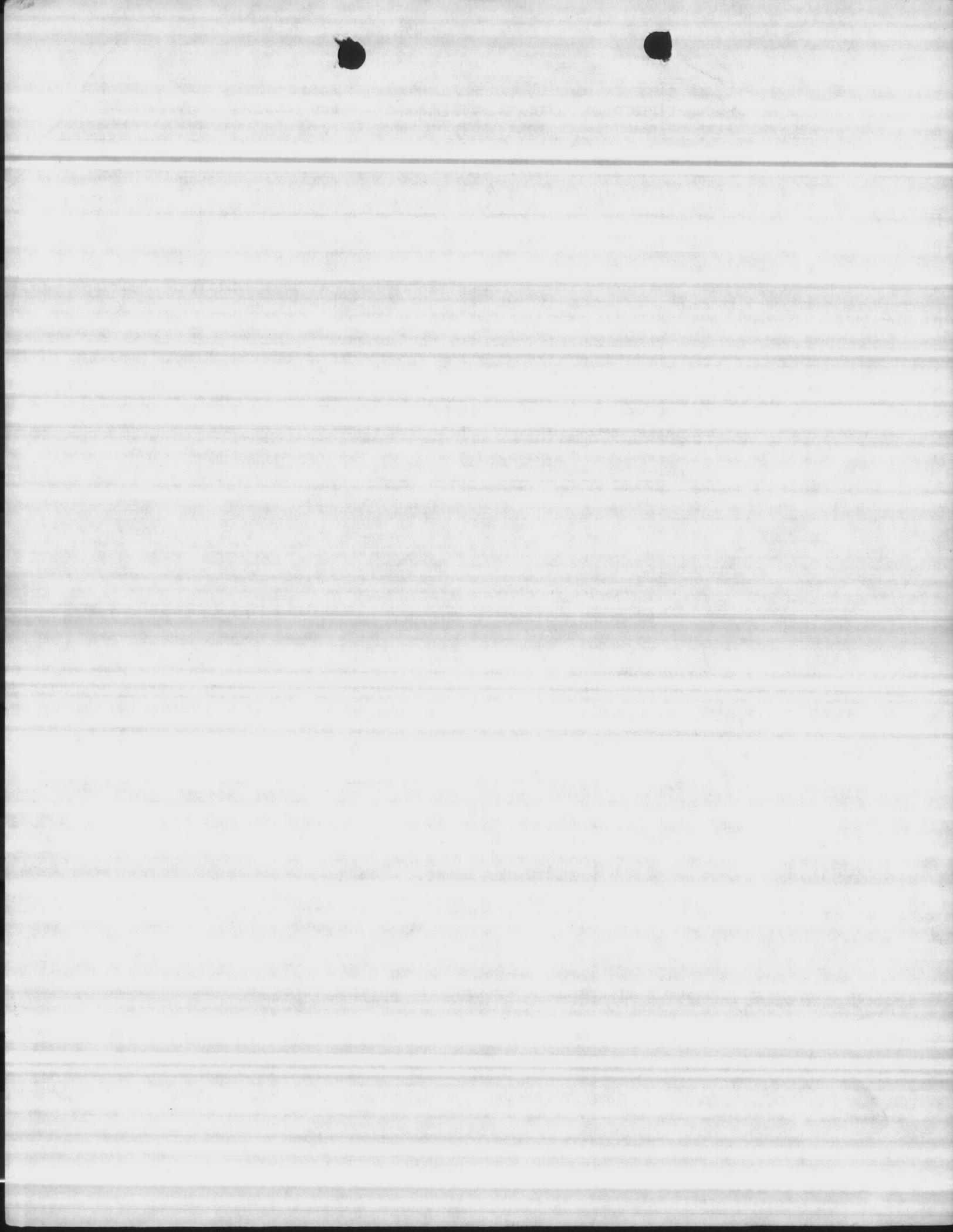












603

LENGTH
OF
AIR LINE

STATIC
LEVEL

PUMPING
LEVEL

DRAW
DOWN

DISCHARGE
PRESSURE

CAP. PER
FOOT OF
DRAW DOWN

TOTAL
CAP.

10-1-82

63'

23'

49

26"

70

104

0855

54

31

64

119

0920

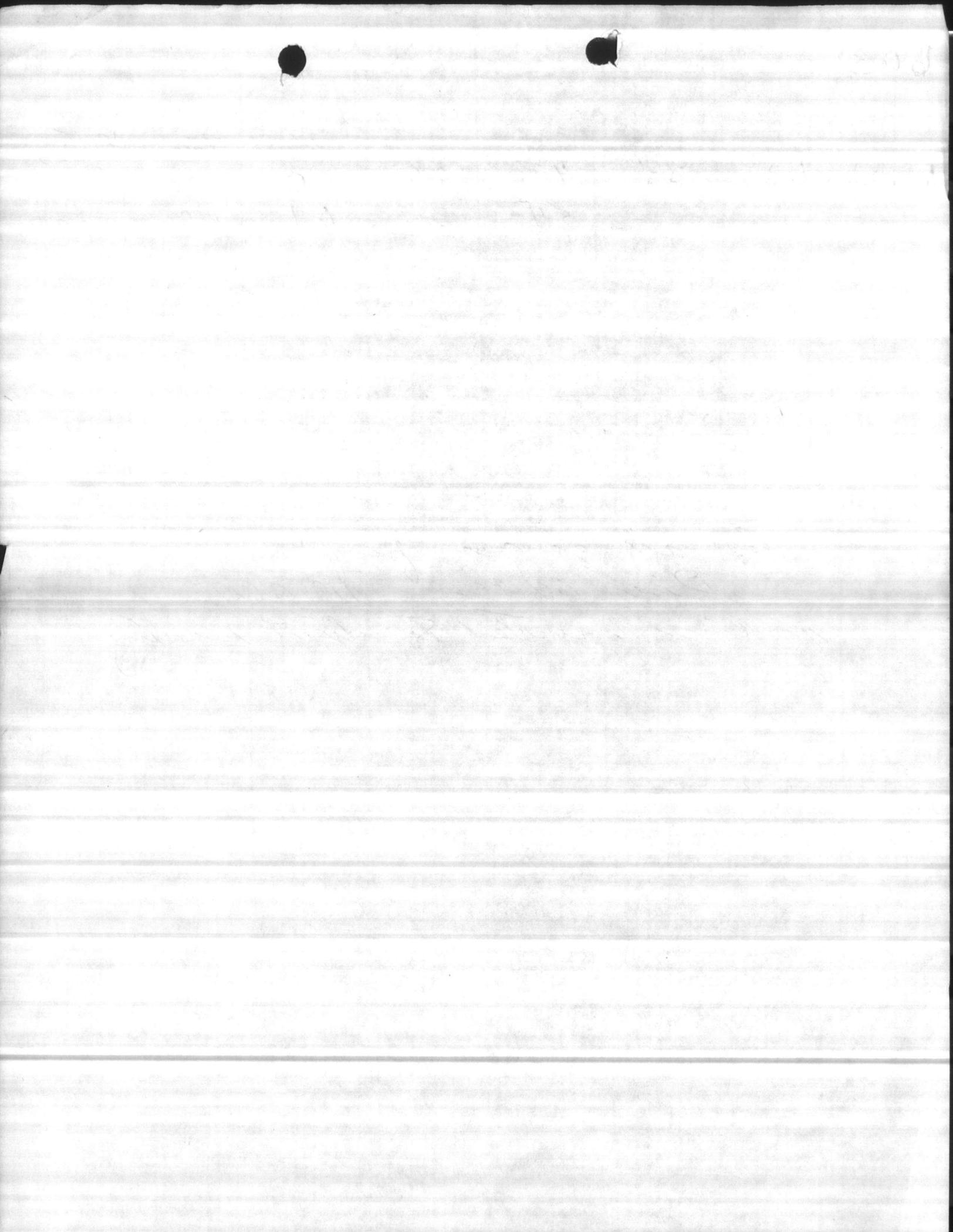
Start

Time

0845

REMARKS:

left alt gage on pump
Dive - 64 PSI 119 GPM
readings converted to direct readings



WELL #
603

LENGTH
OF
AIR LINE

STATIC
LEVEL

PUMPING
LEVEL

DRAW
DOWN

DISCHARGE
PRESSURE

CAP. PER
FOOT OF
DRAW DOWN

TOTAL
CAP.

DATE

MARCH 1, 77

~~70~~

8-6-80

63'

REMARKS:

AIR LINE BLOCK

Installed Air Line 8-6-80 - 7' SHOT TO TOP of impellers
63' - 70' TO TOP of impellers

DEPTH OF
WELL:

AIRLINE

ELEVATION: +

DATE

INSTALLED:



12



PHYSICAL AND CHEMICAL ANALYSIS OF WATER

SAMPLE NO.

WW9-2

FROM: (Station or unit)

U.S. Marine Corps Air Facility, New River, Jacksonville, N. C.

DATE

9-17-58

TO: (Name and location of laboratory)

Sanitation Laboratory, DPWO, 5ND, Naval Base, Norfolk, Virginia

SAMPLE FROM (Location of sampling point)

Well #3

COLLECTED BY

Activity Personnel

DATE

9-8-58

HOUR

—

SOURCE (Designate ground, surface, raw, treated)

Ground

REASON FOR EXAMINATION

To test for chloride content

EXAMINATION REQUESTED BY

Mr. R. L. Cox

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

I. Laboratory ~~PHYSICAL~~ ANALYSIS

1. pH	TEMPERATURE	
	°F	°C 22
ITEM	PPM	
2. CARBON DIOXIDE (CO ₂)		
3. DISSOLVED OXYGEN (O ₂)		
4. HYDROGEN SULFIDE (H ₂ S)		
5. CHLORINE DEMAND (Cl ₂)		

FIELD ANALYSIS BY

DATE OF ANALYSIS

III. ROUTINE LABORATORY ANALYSIS

(CHECK ONE)	
<input checked="" type="checkbox"/> REQUESTED	<input type="checkbox"/> NOT REQUESTED
1. COLOR	
2. TURBIDITY	
3. ALKALINITY (CaCO ₃)	
P	MO
4. TOTAL HARDNESS (CaCO ₃)	3114
5. NON-CARBONATE HARDNESS (CaCO ₃) (By Computation)	
6. CARBONATE HARDNESS (CaCO ₃) (By Computation)	
7. TOTAL DISSOLVED SOLIDS	
8. SPECIFIC CONDUCTANCE (Micromhos)	

II. SPECIAL LABORATORY ANALYSES

Check (X) individual items to be included in the Special Analyses. Request determination only of those substances suspected of being present in significant amounts.

(X)	ITEM	PPM
	1. As	
	2. Se	
	3. Pb	
	4. B	
	5. Cu	
	6. Zn	
	7. Cr (Hexavalent)	
	8. PO	
	9. Cd	
	10. CN	
	11. Phenolic Compounds (PPB)	
	12. Others (Specify)	
	13.	
	14.	
	15.	
	16.	

ITEM	PPM
9. CALCIUM (Ca)	
10. MAGNESIUM (Mg)	
11. SODIUM (Na) AND POTASSIUM (K)	
12. HYDROXIDE (OH)*	
13. BICARBONATE (HCO ₃)*	
14. CARBONATE (CO ₃)*	
15. SULFATE (SO ₄)	
16. CHLORIDE (Cl)	83
17. NITRATE (NO ₃)	
18. IRON (Fe) TOTAL	
19. MANGANESE (Mn)	
20. SILICA (SiO ₂)	
21. FLUORIDE (F)	

*State whether determined or computed from P and MO alkalinity.

REMARKS (Such as unusual appearance, taste, odor, etc.)

Note: Very faint odor of hydrogen sulfide in sample.
 Pump in service for 3 hours prior to time sample was collected.
 Three (3) wells in service at time sample collected.

LABORATORY ANALYSIS BY

George I. Earnest, Jr.

DATE OF ANALYSIS

9-19-58



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 MC		2. TYPE Q	3. LATITUDE ° ' " N 34 40 4		4. LONGITUDE ° ' " W 77 20 32		5.
6. AGENCY STATION NO. 603		7. STATION NAME HP-20-603					
8. DRAINAGE BASIN CODE No. Letter 06 N		9. STATE CODE 32	10. COUNTY CODE 133	11. COUNTY NAME ONslow			
12. PERIOD OF RECORD Began Discontinued 1942		Y <input type="checkbox"/> Continuous <input type="checkbox"/> Interruption Exceeds 1 Year		13.		14.	
15. SITE <input type="checkbox"/> 101 Stream <input type="checkbox"/> 102 Canal		<input type="checkbox"/> 103 Lake <input type="checkbox"/> 104 Reservoir <input type="checkbox"/> 105 Estuary		<input type="checkbox"/> 106 Spring <input checked="" type="checkbox"/> 107 Well <input type="checkbox"/> 110 Other			
16. FREQUENCY OF MEASUREMENT <input type="checkbox"/> 201 Continuous Recorder <input type="checkbox"/> 202 Telemetered		<input type="checkbox"/> 203 Daily <input type="checkbox"/> 204 Weekly <input type="checkbox"/> 205 Monthly <input type="checkbox"/> 206 Quarterly		<input type="checkbox"/> 207 Seasonal <input type="checkbox"/> 208 Annual <input type="checkbox"/> 209 Other Periodic <input checked="" type="checkbox"/> 210 Occasional			
17. TYPES OF DATA AVAILABLE <i>Physical</i> <input type="checkbox"/> 311 Temperature <input type="checkbox"/> 312 Specific Conductance <input type="checkbox"/> 313 Turbidity <input type="checkbox"/> 314 Color <input type="checkbox"/> 315 Odor <input type="checkbox"/> 316 Radioactivity <input type="checkbox"/> 317 pH (field) <input checked="" type="checkbox"/> 318 pH (lab) <input type="checkbox"/> 319 Eh <input type="checkbox"/> 320 Other		<i>Chemical</i> <input type="checkbox"/> 331 Dissolved solids <input checked="" type="checkbox"/> 332 Chlorides Only <input type="checkbox"/> 333 Nutrients (Nitrogen and phosphorus compounds) <input type="checkbox"/> 334 Common ions <input checked="" type="checkbox"/> 335 Hardness <input type="checkbox"/> 336 Radiochemical <input type="checkbox"/> 337 Dissolved oxygen <input type="checkbox"/> 338 Other Gases <input type="checkbox"/> 339 Other		<i>Organic</i> <input type="checkbox"/> 351 Pesticides (insecticides, herbicides, etc.) <input type="checkbox"/> 352 Synthetic detergents <input type="checkbox"/> 353 Other <i>Biologic</i> <input type="checkbox"/> 361 Coliforms <input type="checkbox"/> 362 Other Micro-organisms <input type="checkbox"/> 363 BOD <input type="checkbox"/> 364 Other <i>Sediment</i> <input type="checkbox"/> 371 Concentration <input type="checkbox"/> 372 Particle size <input type="checkbox"/> 373 Other			
18. SUPPLEMENTARY DATA FOR SITE <input type="checkbox"/> 421 Surface Water Station <input type="checkbox"/> 422 Ground Water Station		<input type="checkbox"/> 423 Water Stage or Level <input checked="" type="checkbox"/> 424 Water discharge		<input type="checkbox"/> 425 Time of Travel <input type="checkbox"/> 426 Drainage Area			
19. STORAGE OF DATA <input type="checkbox"/> 501 Periodic Report <input type="checkbox"/> 502 Areal Report		<input checked="" type="checkbox"/> 503 Not Published <input type="checkbox"/> 504 Data on Punched Card		<input type="checkbox"/> 505 Data on Magnetic Tape <input type="checkbox"/> 506 Other			
20. OFFICE AT WHICH DATA AVAILABLE Office <u>BASE MAINTENANCE DEPARTMENT, UTILITIES DIVISION</u> Street No. <u>MARINE CORPS. BASE</u> City Code _____ City, State, Zip <u>CAMP LEJEUNE, N. C. 28542</u> 0735							
21. OFFICE COMPLETING FORM <u>BASE MAINTENANCE DEPARTMENT</u>							
22. COMPILER'S NAME <u>F. E. TEW, JR.</u>						23. DATE Month _____ Year <u>19</u>	



Date	Line Ft.	G.P.M.	D.D. El.	Static El.	Shut Off Head	D.D. Ft.
			gauge ft. Stage. FT			
7-22-54	46	175	60	25		36
"	50	164	59		very noisy	34
"	39	183	65	25	←	40 (operating Here)
"	39	183	65	25		40
7-27-54	40		64	27		37
10-14-54	41½					
Pump shaft locked Jan - 26-1955						
Pumps in operation 7-19-55. very noisy						
7-19-55			63	32 ft.		31 ft.
NEW BEARING stage. 3-20-56 - THOMAS						
3-26-56				20 ft.		
3-27-56			60	20		40
6-13-56	water level - pump base to water					16' - 10"
6-13-56	Pump Pulled					
DIRECT READING GAGE.						
5-28-57			48 ft.	16 ft.		32
4-23-58	water level - pump base to water				15'-2"	
11-19-65	"	"	"	"	"	20'-9"
11-29-67	"	"	"	"	"	23'-6"
Rattling noise in pump when started. 5-28-57. P.H.P. + Price.						
Repair by Thomas and put in operation 5-28-57						
new bearing line shaft. by Thomas 7-5-55						
Air Line 74 ft. NEW AIR LINE - 3-20-56 - 64 ft. ^{EL.} -37.2						



W. A. C. 1101

W E L L D A T A

Well No. 3

26.8
16.2
42.8
0.
32.0

SPECIFICATIONS

Pump Base Elevation	26.8
Ground Elevation	24.8
Static Elevation	11.8
Maximum allowed Drawdown	-33
Total Discharge	250 G.P.M.
Total Head	186 Feet

TEST

290 G.P.M.	15#	Pressure	Drawdown	-16.2	- 25.2
265 G.P.M.	20#	Pressure	Drawdown	-14.2	- 22.2
250 G.P.M.	21#	Pressure	Drawdown	-12.2	- 21.2
240 G.P.M.	25#	Pressure	Drawdown	- 8.2	17.2
215 G.P.M.	30#	Pressure	Drawdown	- 4.2	13.2
170 G.P.M.	35#	Pressure	Drawdown	- 0.2	- 9.2
130 G.P.M.	40#	Pressure	Drawdown	4.8	- 4.2

Recovers to Elevation 16.8 in three (3) minutes.

Air line figured 60' Actual 69'

WATER ANALYSIS

By N. H. Kellam

Date Oct 30 - 41

Sample from Well No 3 Reg Area Per Area
195 ft Deep 65 hrs Pumping at 300 YPM
By Jayne Atlantic Co

Total Solids	<u>340</u> PPM	Volatile Solids	<u>60</u> PPM
Suspended Solids	<u>28</u> "	Disolved Solids	<u>302</u> "
Phenophthalein Alkalinity	<u>0</u> "	Silica	<u>10</u> "
Total Alkalinity	<u>170</u> "	Ferrous Iron	<u>0</u> "
Chlorides	<u>18</u> "	Total Iron	<u>2.0</u> "
Sulphates	<u>9.</u> "	Aluminum	<u>2.4</u> "
Carbonates	<u>0</u> "	Calcium	<u>66.0</u> "
Bicarbonates	<u>170</u> "	Magnesium	<u>2.8</u> "
		Sodium	<u>1.2</u> "
pH	<u>7.5</u>	Soap Hardness as CaCO ₃	<u>180</u> "
		Mineral Hardness as CaCO ₃	"

Odor Slight

Turbidity _____

REMARKS _____

By _____
Date _____

Sample from _____

Item	Quantity	Weight	Notes
Ground Solids	100	100	
Water	100	100	
Organic Matter	100	100	
Total Solids	100	100	
Aluminum	100	100	
Calcium	100	100	
Magnesium	100	100	
Sodium	100	100	

Sample from _____
Sample from _____

Site _____
Date _____
Remarks _____

Supersedes:

Date 12-14-56

Page No. 1.01

BERKELEY

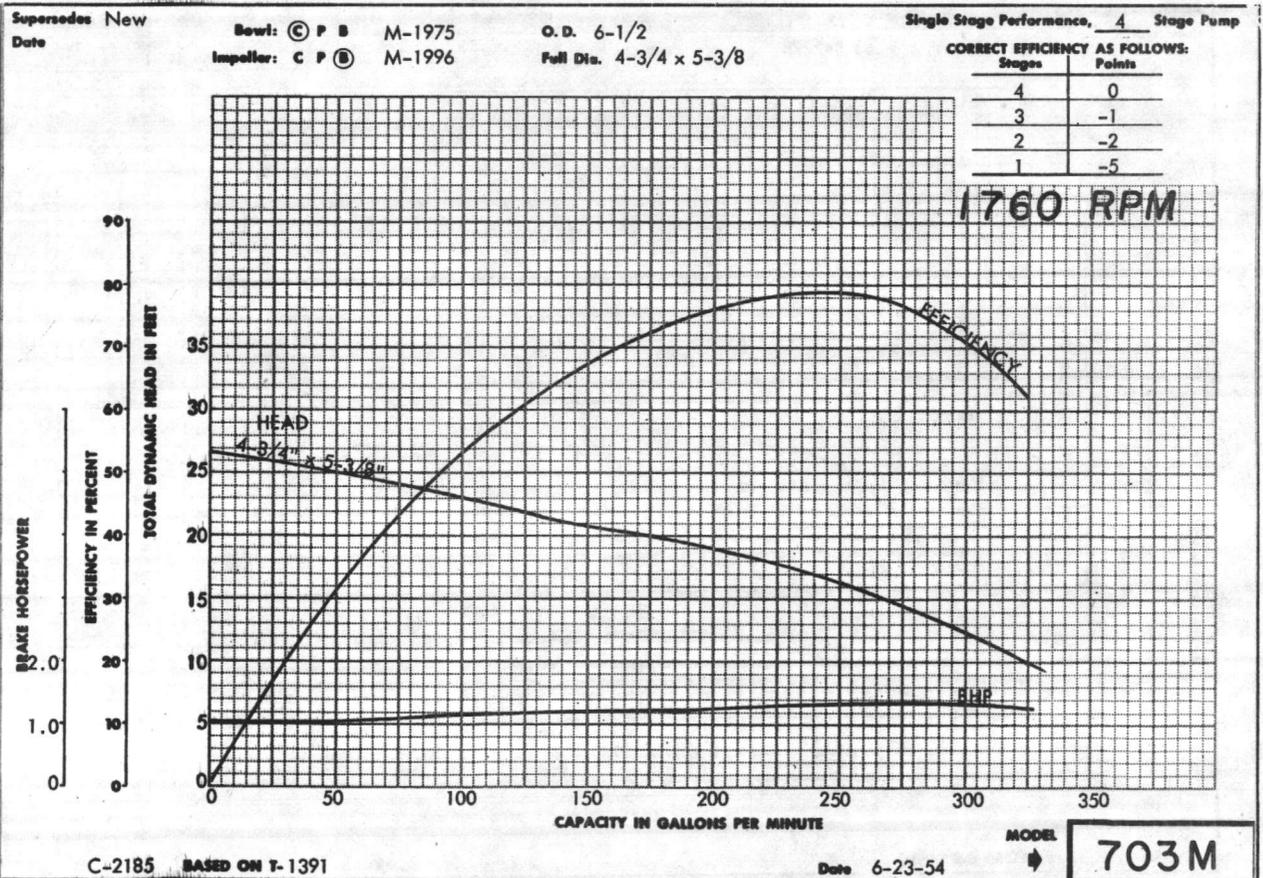
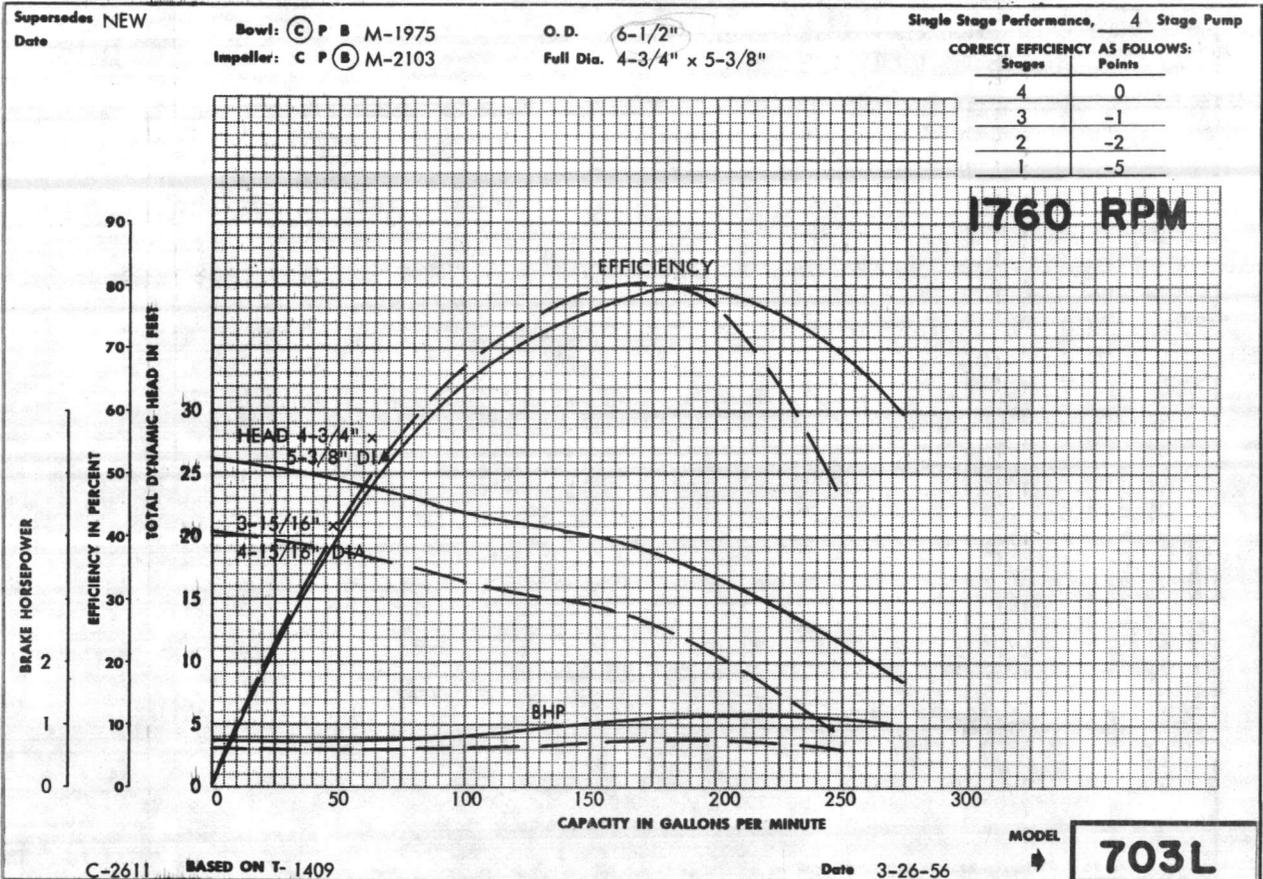
Deepwell Turbine Rating Curves

Section 5055

1-20-59 No. 7.01

Enclosed Impeller

1760 R.P.M.



Tidewater Machinery & Machine Tool Co.
P.O. Box 3411
Wilmington, North Carolina 28401

3

Supersedes:

Date 12-14-56

Page No. 1.02

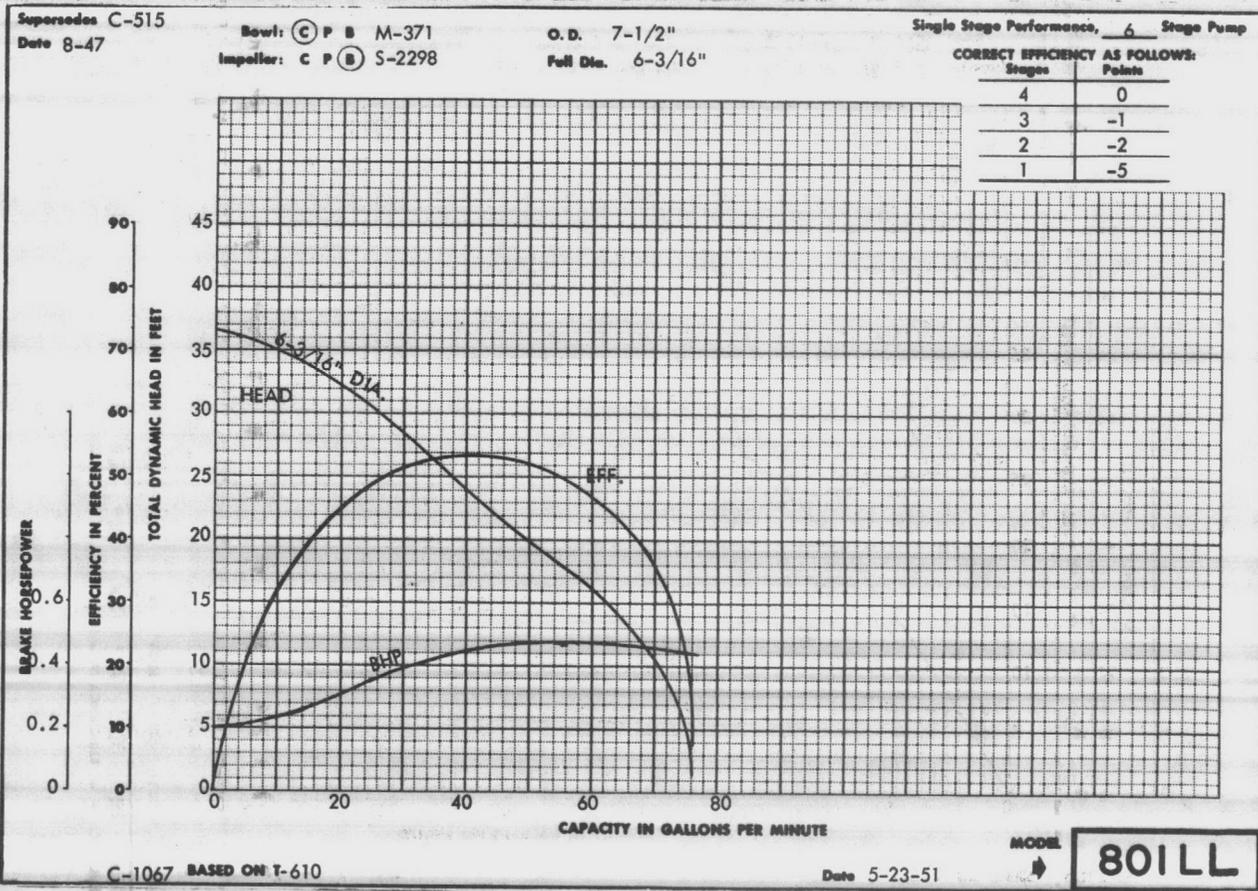
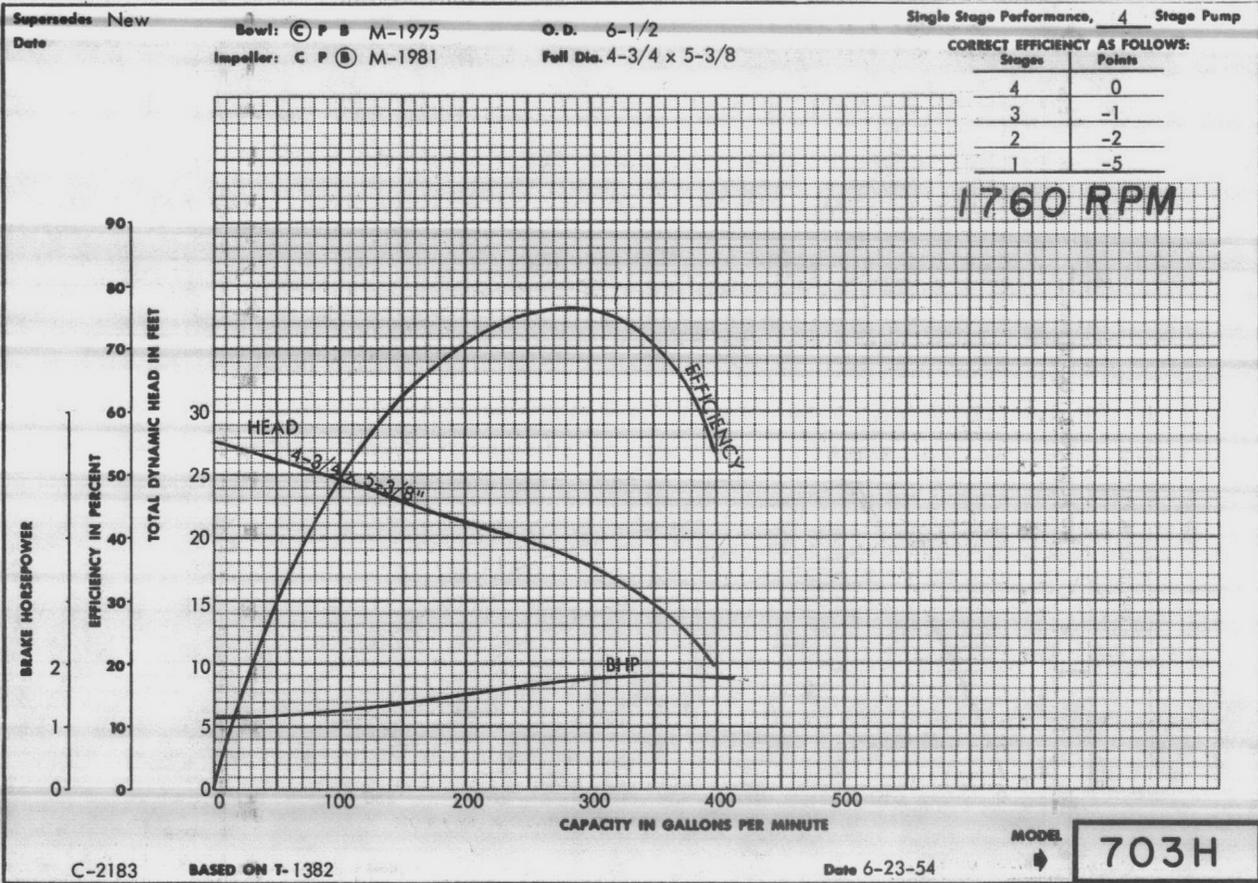
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BERKELEY

Deepwell Turbine Rating Curves

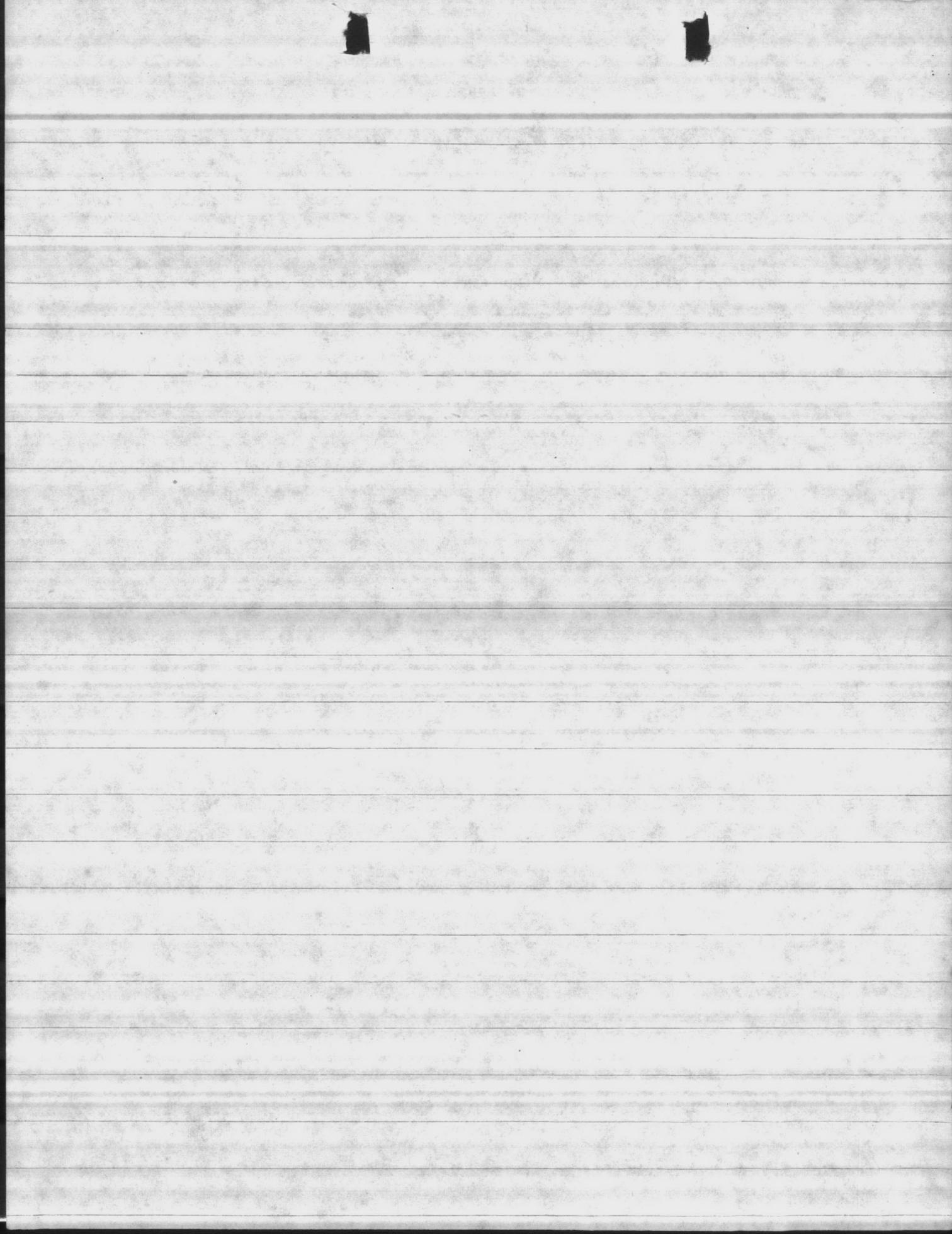
Section 5055
1-20-59 No. 7.02

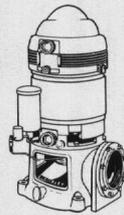
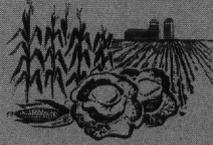
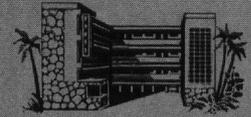
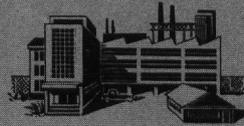
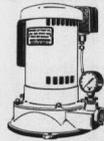
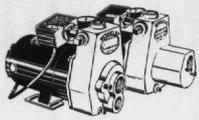
Enclosed Impeller
1760 R.P.M.



3 WELL

DATE	AIRLINE	STATIC	D.D.	GPM	PUMPLEV.	SHUT OFF HEAD
1965	PULLED		+ CLEANED			
5/5/59	72'			201	New Pump	Installed
11/28/66	70'	45	22	50	23	52#
?						
8/11/69	70	45	26	100	19	SEE WELL TEST.
6/19/70	Pulled and cleaned					





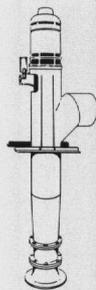
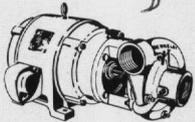
71703

79M4620
Lidewater
Supply

TIDEWATER MACHINERY
&
MACHINE TOOL COMPANY
P. O. Box 3411
Wilmington, NC 28401
(919) 763-8461



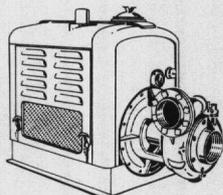
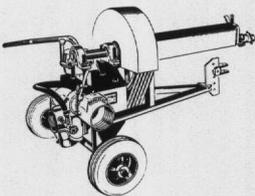
BERKELEY



PUMPS AND WATER SYSTEMS

*The
most complete line
of fine*

PUMPING EQUIPMENT
in the World



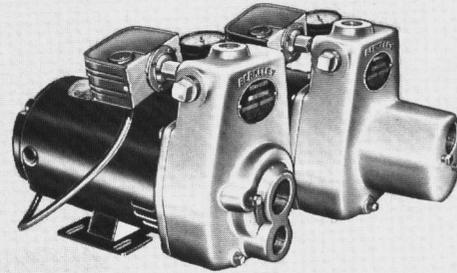


DEPENDABLE PUMPS INDUSTRIAL AND

WATER SYSTEMS

A pioneer in the development and manufacture of jet pump water systems (many units are still performing faithfully in the field after more than a quarter century), Berkeley offers a complete line of vertical and horizontal jet pumps to meet modern domestic water needs.

Shallow well, and single and two stage deep-well models are available for installations to 320 foot depths and with capacities to 4200 gallons per hour. Whether you want moderate or large quantities of water — at standard, or high pressures — whatever your requirements, there is a dependable Berkeley water system engineered to fit your need. More than 100 models are available to suit widely varying demands.

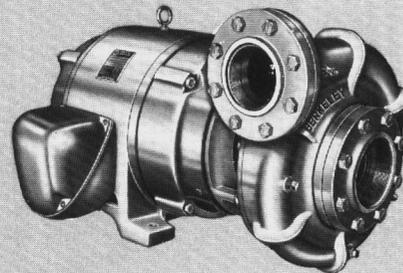


MODELS S-D

Economical Model "S" units provide up to 1700 GPH from shallow wells, and Model "D" units in excess of 1500 GPH from deep wells, using $\frac{1}{3}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 HP motors. A convertible shallow well pump is also available in the "D" series.

CENTRIFUGAL PUMPS

Berkeley provides a complete line of motor driven centrifugal pumps, water-cooled and air-cooled engine driven pumps, belt and coupling drives, and Tracto-Rain pumps for use with tractor power take-offs. Capacities up to 3700 GPM. These centrifugal pumps are also available in modified designs with special materials, or can be custom designed and manufactured to meet specific application requirements. The reliability of Berkeley centrifugals has been proved in thousands of installations.

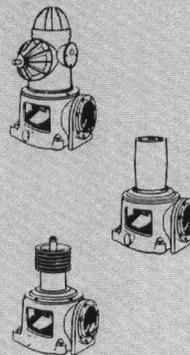
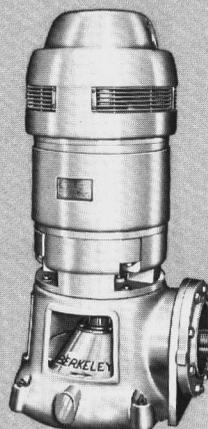


MOTOR DRIVE PUMPS

Capacities to 3500 GPM Heads to 150 PSI (347') Sizes 1" to 8"

VERTICAL AND SUBMERSIBLE TURBINES

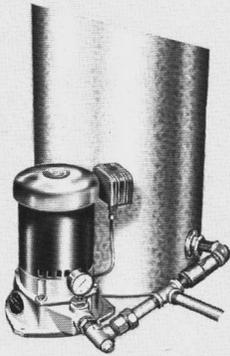
The Berkeley deepwell turbine line includes the 3450 RPM Cavalier, vertical turbine fire pumps listed by Underwriters Laboratories (with 500 to 2500 GPM capacities) and enclosed line oil-lubricated, or open line water-lubricated shaft types. Submersible Turbines for 6 inch and larger wells are also available. Dependable Berkeley turbines meet the most rigid requirements for agricultural, commercial, industrial and municipal applications.



DEEPWELL TURBINES

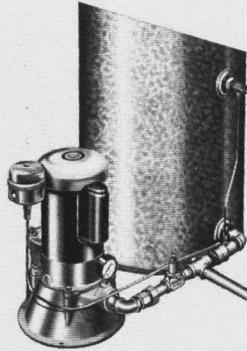
For 4 to 24 Inch Wells
Capacities from 25 to 12,000 gallons per minute, at pumping levels to 1000 feet deep. Water-lubricated open line and oil-lubricated enclosed line shafts. Motor, pulley and gear drives, and combination drives also available.

FOR... DOMESTIC... AGRICULTURAL... COMMERCIAL INSTALLATIONS



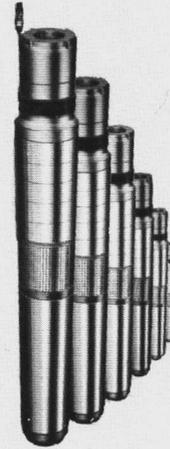
**VERTICAL SINGLE
STAGE 100 SERIES**

Delivers 370 GPH from 150' level — up to 2800 GPH at 30 pounds. $\frac{1}{3}$ through 2 HP, for one or two pipe installations.



**VERTICAL TWO STAGE
SERIES 200**

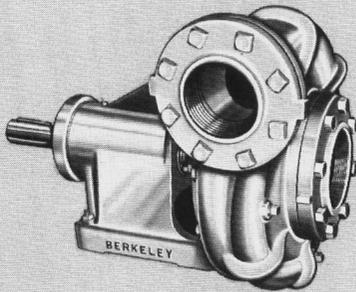
Capacities up to 700 GPH. Provides extremely high pressure from wells as deep as 320 feet. Four models from $\frac{3}{4}$ to 2 HP.



SUBMERSIBLE TURBINES

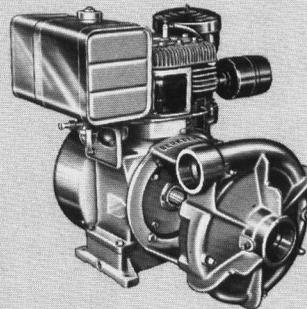
For 4" and larger well diameters. Capacities to 4000 GPH. Capacitor type motors from $\frac{1}{3}$ to 5 HP. Also available with economical split-phase motors through $\frac{1}{2}$ H.P. Ideal for water systems with wells to 1300 foot depths.

Quiet, dependable, underground operation. Entire pump and motor is protected from freezing in extreme climates.



**BELT AND COUPLING
DRIVE PUMPS**

Capacities to	Heads to	Sizes
3700 GPM	150 PSI (350')	1" to 8"



ENGINE DRIVE (Air-Cooled)

Capacities to	Heads to	Sizes
1800 GPM	130 PSI (300')	1" to 6"



ENGINE DRIVE (Water-Cooled)

Capacities to	Heads to	Sizes
3700 GPM	180 PSI (416')	3" to 8"



SUBMERSIBLE TURBINES

High Capacity Units

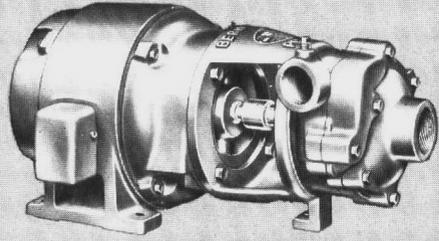
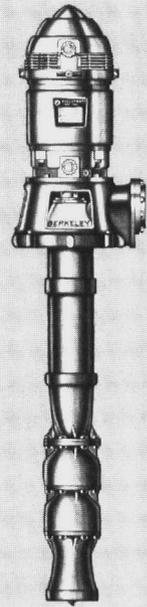
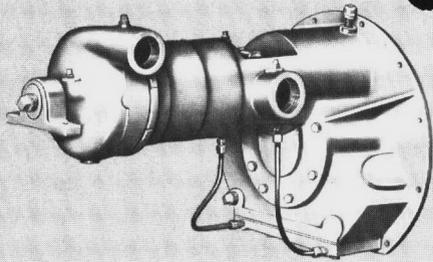
Unsurpassed for industrial, municipal and agricultural applications.

For 6, 7 and 8 inch wells. Capacities from 30 to 600 GPM, at well depths to 1000 feet. Single phase motors in $1\frac{1}{2}$ through $7\frac{1}{2}$ HP, three phase motors from $1\frac{1}{2}$ through 40 HP.

Also available for 10 inch and larger wells. Capacities to 6000 GPM. Furnished with submersible motors from 20 through 250 HP; for 1760 RPM, 60 cycle, three phase operation.



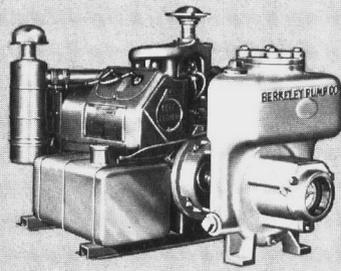
BERKELEY ALSO MANUFACTURES THE JET-DRIVE, A MARINE PROPULSION UNIT THAT REPLACES THE CONVENTIONAL PROPELLER IN AN INBOARD INSTALLATION. IDEAL FOR HULLS FROM 14' to 24'. SAFE — SMOOTH — EFFICIENT — ECONOMICAL TO INSTALL AND MAINTAIN. WRITE FOR FULL PARTICULARS.



2-STAGE CENTRIFUGAL

Higher pressures for fire, industrial, farm and general application. Motor, belt, or engine drive. Capacities 30 to 400 GPM with heads up to 650 feet, 1 to 40 HP. Maximum case pressures from 250 to 350 psi.

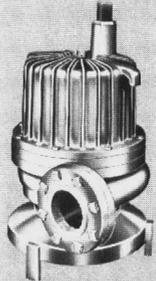
CUSTOM ENGINEERED PUMPS
In addition to the broad line of standard pump types described in this bulletin, Berkeley's Engineering Department has designed countless "special" pumps to meet unusual conditions and specifications. Contact the Factory for assistance when pumps requiring special design or material are involved.



SELF-PRIMING CENTRIFUGAL

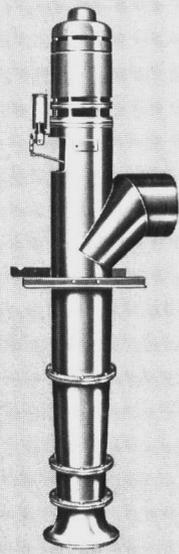
Available from 1/3 to 20 HP... up to 430 GPM. Also with engines up to 36 HP. Truly self-priming... after initial prime, will reprime automatically regardless of number of times suction is lost. Ideal for swimming pool circulation and cleaning use.

CLOSE COUPLED TURBINE PUMPS
For high, or low pressures, in sump, or barrel types, for conventional, or reverse flow. Capacities to 10,000 GPM; pressures to 1,000 psi; temperatures to 800° F.

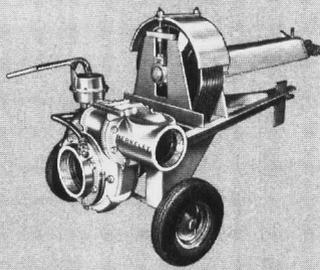


SUMP PUMPS

Conventional and submersible types. Fractional horsepower units to handle 10 GPM to 70 GPM at heads to 55 feet. Larger units with capacities to 1500 GPM and heads to 120 feet.

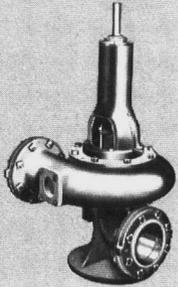


AXIAL AND MIXED FLOW PUMPS
High capacity, packaged length or custom built pumps for water transfer from streams, lakes, canals; for surface drainage, condenser circulation, agitating liquids in vats, and as main and trimming pumps for drydocks. A modified version of either the Axial or Mixed Flow pumps is available for inclined installation.



PTO PUMPS

Trailer mounted pumping units powered by tractor takeoff. Pump may be tailored to application by choice of 5 step-up drive sizes. Capacities 300 to 2200 GPM with pressures up to 100 psi. Designed specifically for sprinkler and flood irrigation applications. In 3" through 6" sizes.



NON-CLOG PUMPS

Available for wet pit installation in conventional and submersible types. For dry pit applications available for motor, engine, belt or coupling drive. Suction and discharge from 2 1/2" to 6", Motors to 15 HP.

Berkeley Pump Company

P. O. Box 7, Station A, Berkeley, California 94712

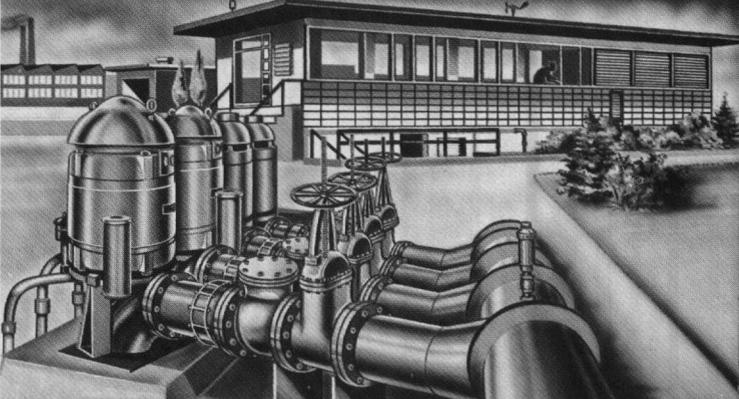
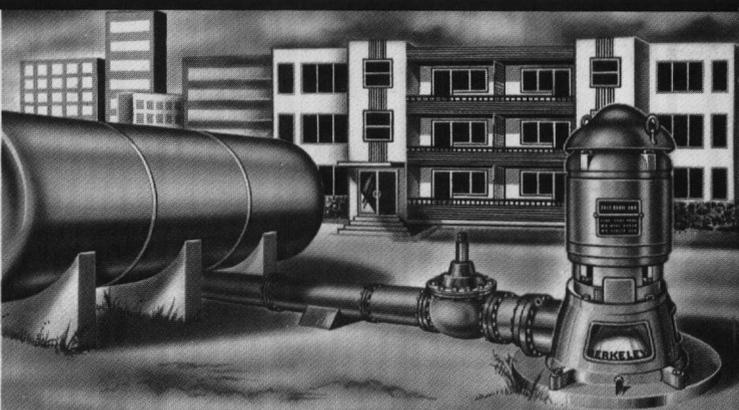
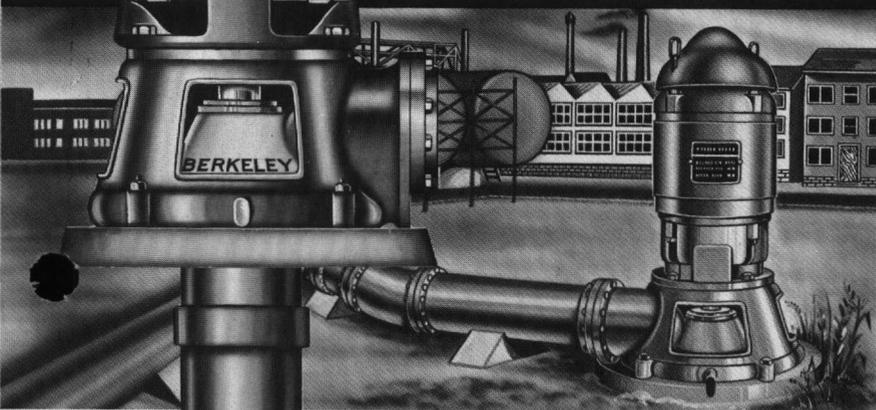
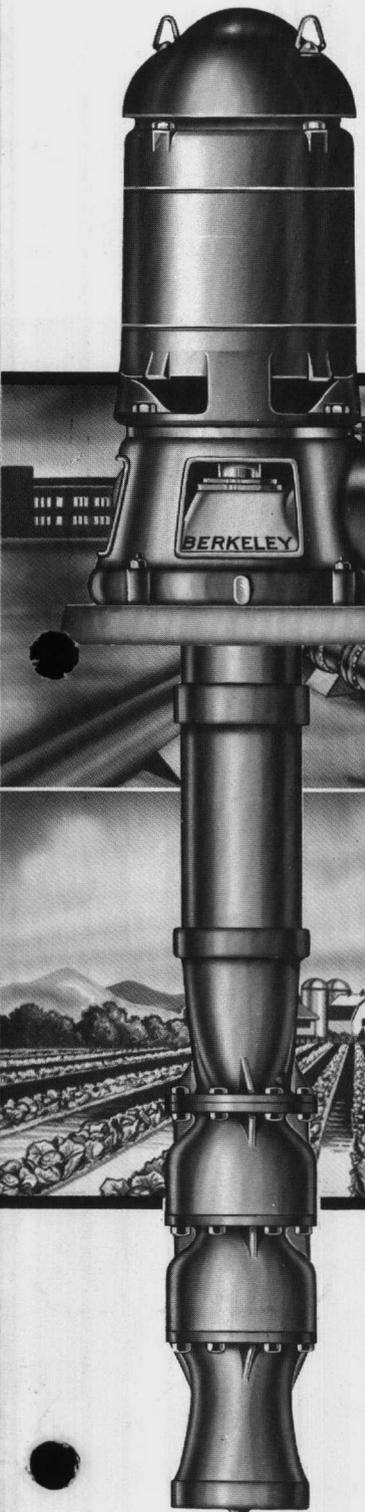
2740 Northwest 22nd Place, Portland, Oregon
556 Tift Avenue, S.W., Atlanta, Georgia
P.O. Box 366, Grand Island, Nebraska
P.O. Box 5146, Amarillo, Texas

SOLD BY:



VERTICAL TURBINE PUMPS

OPEN LINE SHAFT TYPE
(Water Lubricated)



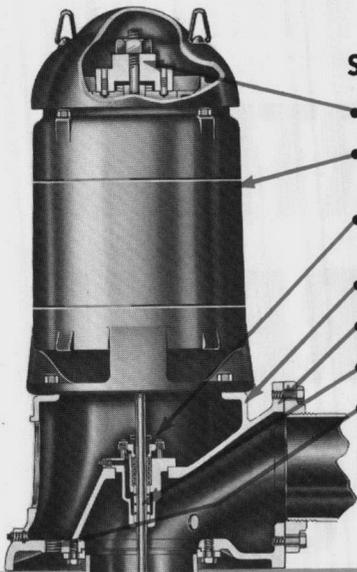
Industrial Service
Agricultural Irrigation

Municipal Water Supply
Booster Service

BERKELEY VERTICAL TURBINES are available for all pumping conditions and are designed to meet American Standards Association and American Water Works Association specifications.

BERKELEY Vertical Turbine Construction Details

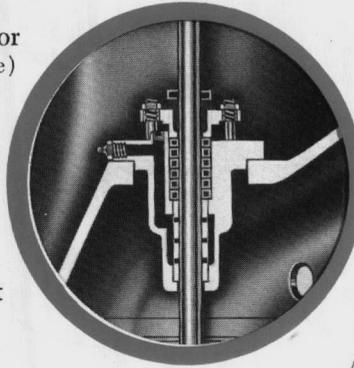
OPEN LINE SHAFT MODELS



Surface Discharge Head

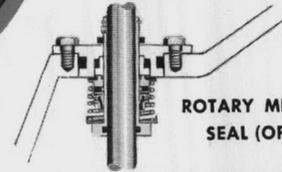
- Top Shaft Adjusting Nut
- Vertical Hollow-Shaft Motor (for other drivers see back page)
- Stuffing Box Assembly (or Rotary Seal—see insets)
- Surface Discharge Head
- ASA Flat-Faced Flange
- Head Shaft Bearing
- Water Level Detector Port

Discharge Head Shaft Seals



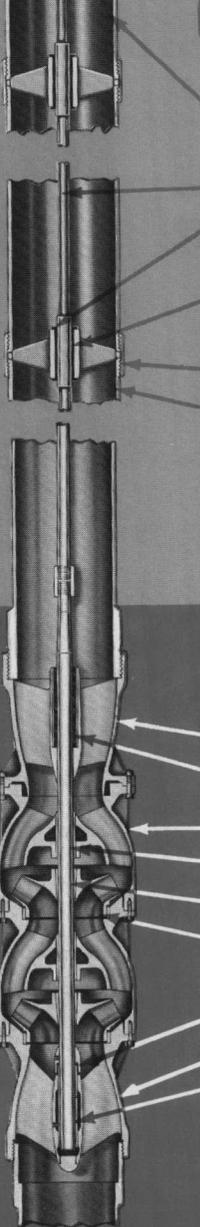
Stuffing Box Assembly

This is the standard gland-type stuffing box. Note the use of a grease-lubricated head shaft bearing and lead-asbestos packing rings. Cartridge type design simplifies assembly and size adaptation.



ROTARY MECHANICAL SEAL (OPTIONAL)

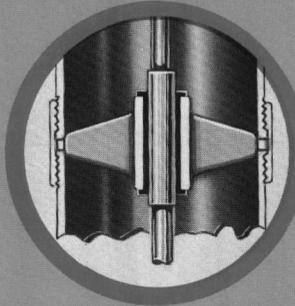
Column Pipe and Open Line Shaft Details



Top Column Pipe

- Line Shaft
- Shaft Sleeve Coupling (Bearing Surface)
- Shaft Bearing (Free-Floating Elastomer)
- Column Pipe Coupling
- Column Pipe

Shaft Bearing Retainer



Husky, cast-bronze bearing retainer spiders are used to carry resilient elastomer bearings in open line shaft construction. These retainers are butted between column pipe sections within the coupling. Retainers are precisely machined and end-faced to assure water-tight fit and perfect alignment.

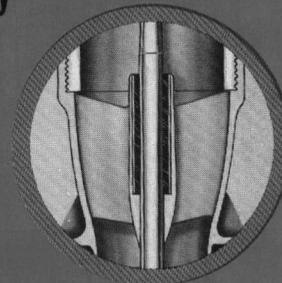
Shaft Sleeve Coupling



Stainless steel sleeves are precision ground. They are threaded with lefthand threads to prevent uncoupling. These sleeves rotate in specially-designed elastomer bearings. Sleeves are designed for long life, but if wear should occur at this bearing point, replacement is readily made in the field without special equipment being required.

Pump Bowl Assembly

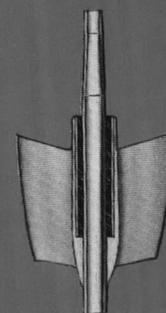
- Discharge Case
- Discharge Case Bearing
- Intermediate Bowl
- Pump Shaft
- Impeller Lock Collet
- Impeller
- Suction Case Sand Collar
- Suction Case
- Suction Case Bearing



Discharge Case Bearing

Long, fluted elastomer discharge case bearing provides extra support area for oversize pump shaft. Simple in concept, this design has proved exceptionally durable.

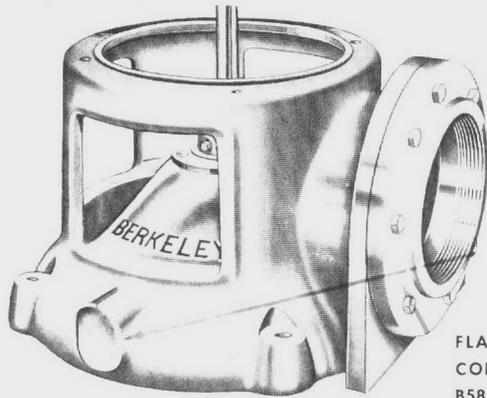
Pump Shaft



Pump shafts used in Berkeley Turbines are oversize. This rugged construction assures a longer life for the pumping elements, reducing maintenance and service calls.

Discharge Head Details

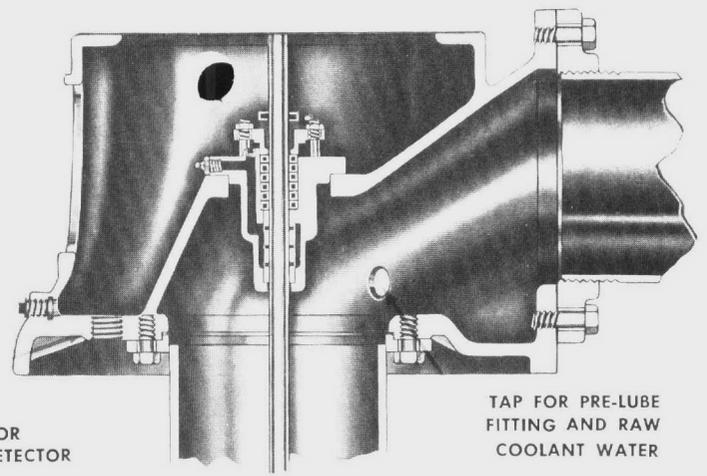
This heavy-duty surface discharge head carries the weight of pump, shafting, column pipe, and supports the driver unit. Heavy-duty lifting lugs are designed to support entire weight of pump assembly during installation.



ACCESS HOLE FOR WATER LEVEL DETECTOR

HEAVY DUTY LIFTING LUGS

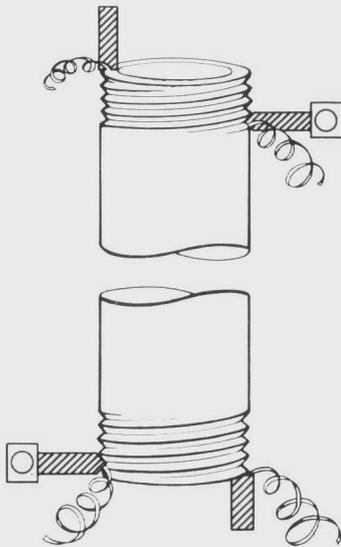
FLAT-FACED FLANGE CONFORMS TO USSA B58.1 SPECIFICATIONS



TAP FOR PRE-LUBE FITTING AND RAW COOLANT WATER

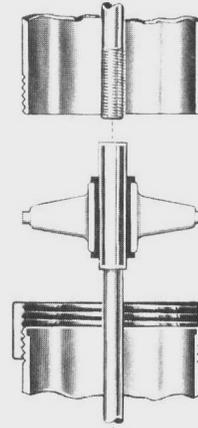
Sanitary Code Construction Details

Recess in discharge head above mounting surface permits well casing to extend above mounting pad, thus eliminating seepage of surface water into well.



Accurately Machined Column Pipe

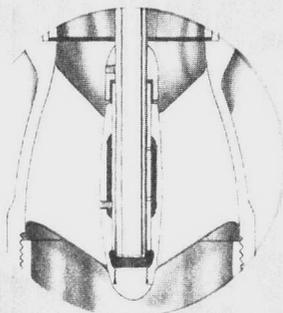
Column threads and end facings are cut simultaneously at both ends of column pipe sections, assuring perfect alignment.



Precision Alignment

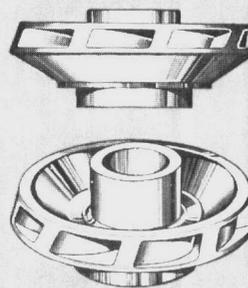
Accuracy of alignment in Berkeley Turbine Pumps is maintained both by the carefully machined components and the use of the performance-proved bearing retainer. There is no field cutting necessary; precision manufacture holds shaft alignment to comparative tolerances closer than those used by most watch-makers.

Suction Case Bearing

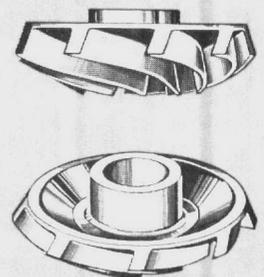


This extra-long bronze bearing is contained in a housing sealed at the lower end. Reservoir holds liberal supply of special heavy-duty, non-soluble hydraulic grease good for the life of the pump. A sand collar at the top of the bearing acts as a centrifugal separator, protecting the bearing against damage.

Choice of Impellers



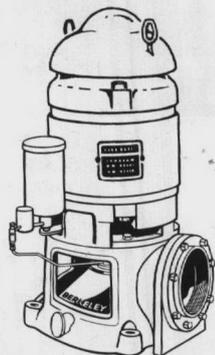
ENCLOSED IMPELLERS



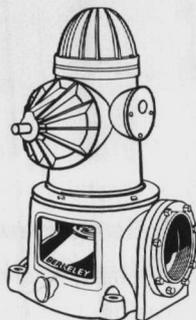
SEMI-OPEN IMPELLERS

All Berkeley impellers are individually balanced to assure smooth-running characteristics. Impellers are locked on shaft by means of special tapered lock collets. Enclosed impellers available in cast bronze for all sizes. Cast iron, or porcelainized cast iron available in larger sizes only. Semi-open impellers are of cast bronze.

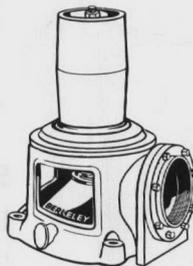
BERKELEY Vertical Turbines - Standard Heads



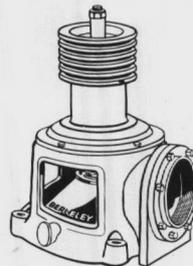
MOTOR DRIVE



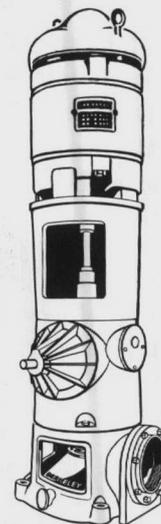
RIGHT ANGLE
GEAR DRIVE



FLAT-BELT
PULLEY DRIVE



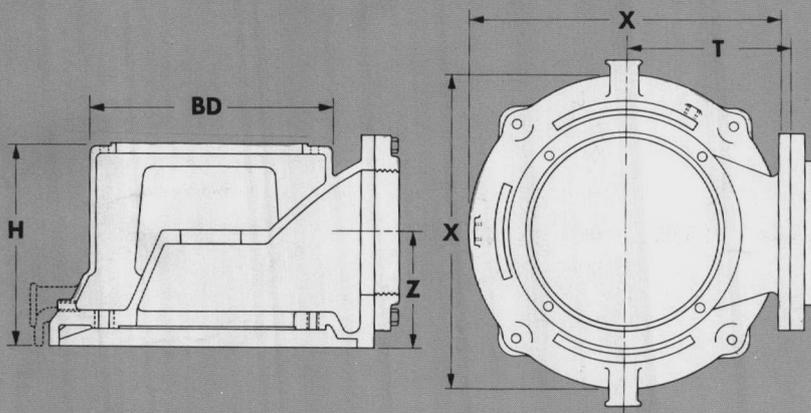
V-BELT
PULLEY DRIVE



COMBINATION
MOTOR-GEAR DRIVE

BERKELEY VERTICAL TURBINE PUMPS ARE ALSO AVAILABLE UNDER UL REEXAMINATION SERVICE LISTING.

Discharge Head Dimensions



Dimensions (Inches)					
MODEL	BD	H	T	X	Z
3A	10	7 $\frac{3}{8}$	6 $\frac{1}{8}$	14	2 $\frac{1}{4}$
4A	11 $\frac{1}{2}$	7 $\frac{1}{4}$	6 $\frac{1}{8}$	14	3 $\frac{3}{4}$
5A	11 $\frac{1}{2}$	11 $\frac{3}{8}$	8 $\frac{1}{2}$	16	6 $\frac{3}{4}$
6-16	16	13 $\frac{3}{8}$	11 $\frac{3}{8}$	21 $\frac{3}{4}$	8
8-16	16	13 $\frac{3}{8}$	11 $\frac{3}{8}$	21 $\frac{3}{4}$	8
8-20	20	17	14	26	9 $\frac{1}{2}$
10-20	20	17	14	26	9 $\frac{1}{2}$
10D	23	15 $\frac{1}{2}$	15	28	9 $\frac{3}{4}$
12D	24 $\frac{1}{2}$	22 $\frac{1}{2}$	13	27	12 $\frac{1}{4}$
12E	30 $\frac{1}{2}$	22 $\frac{1}{2}$	13	27	12 $\frac{1}{4}$

Performance Range

Well-Sizes: _____ 4" to 24"

Capacities: _____ 25 to 12,000 Gallons per minute

Pumping Levels to: _____ 1000 feet



BERKELEY PUMP COMPANY

829 Bancroft Way, Berkeley, California 94710 556 Tift Street, S.W., Atlanta, Georgia 30310

Factory Branches Located In . . . Amarillo, Texas; Grand Island, Nebraska; Dallas, Texas; Phoenix, Arizona; Portland, Oregon; Denver, Colorado; Cherry Hill, New Jersey; Tampa, Florida; Minneapolis, Minnesota; Ajax, Ontario, Canada.

SOLD BY

**TIDEWATER MACHINERY
&
MACHINE TOOL COMPANY**

P. O. Box 3411
Wilmington, NC 28401
(919) 763-8461

H P
603

10/4/73

Layne pump

size 3"

Depth 20'

setting 70'

static 19'

airline 20'

GPM 100

Back in 4/29/73

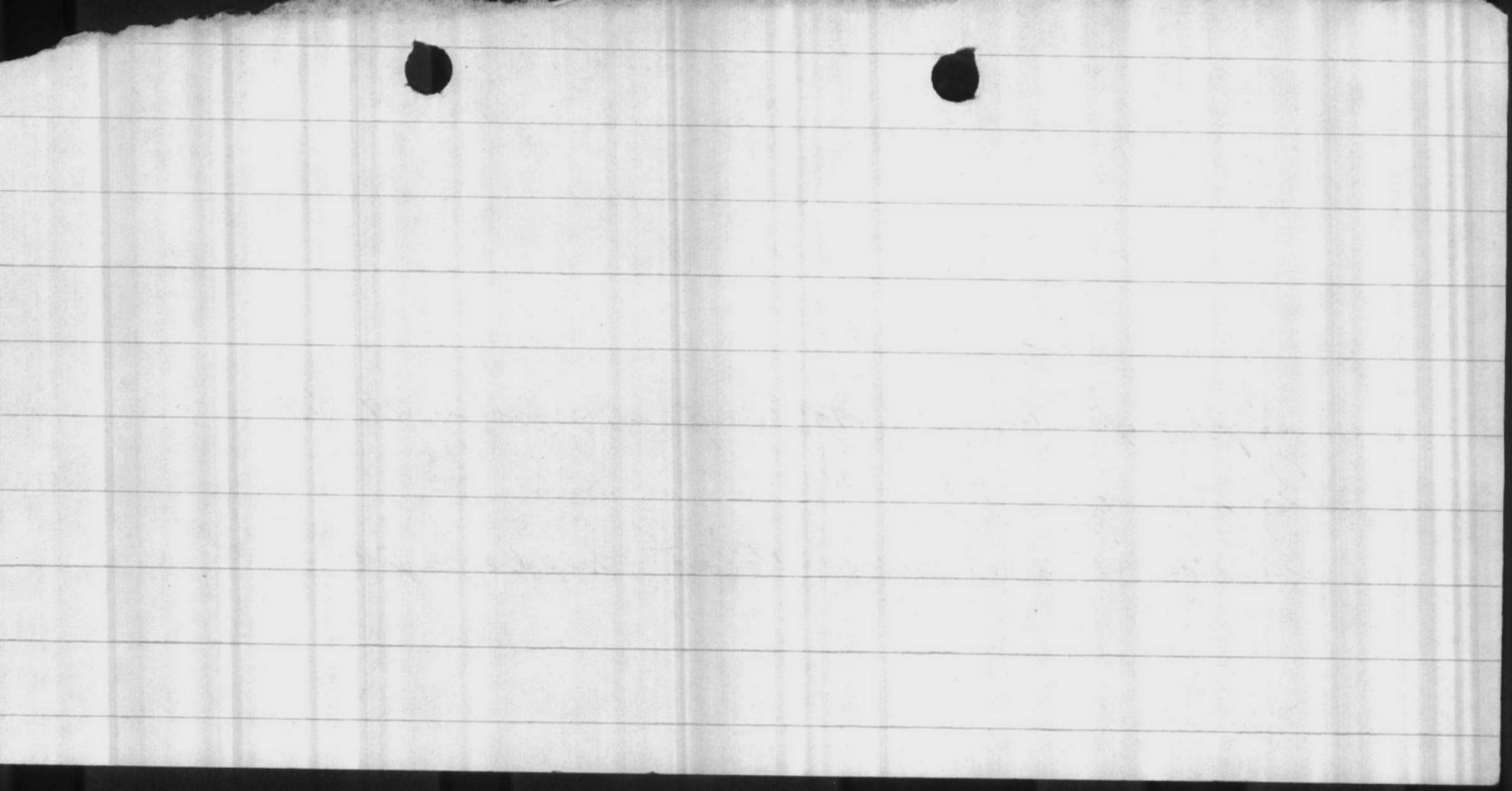


5-3-73

Well pump 603 discharge pressure 23. lb₂

Pumping 190 G.P.M.

Backpressure valve pilot needs repair



3 well

19 NOV. 65

20 ft. AND 9 inches FROM BASE
OF pump TO WATER LEVEL.

CHECKED BY
Raynor

$$\begin{array}{r} 24' 10'' \\ 20' 9'' \\ \hline 4' 1'' \end{array}$$

EDMAC, Inc.

CHUCK WILLIAMS
PHONE 243-3946
WILSON, NORTH CAROLINA

H.P. Well 603