

FILE FOLDER

DESCRIPTION ON TAB:

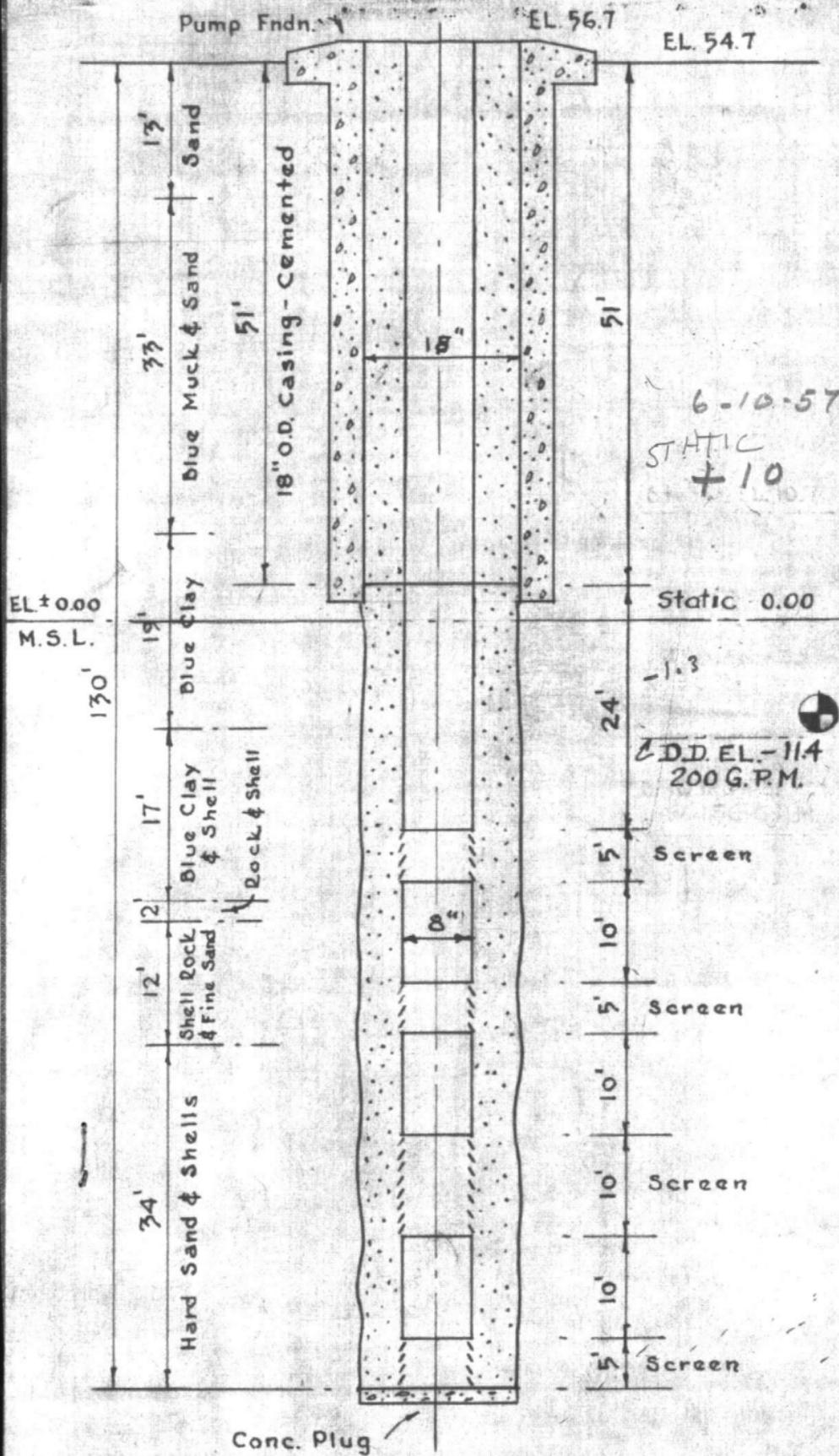
R. R. Well 45

Outside/inside of actual folder did not contain hand written information

Outside/inside of actual folder did contain hand written information

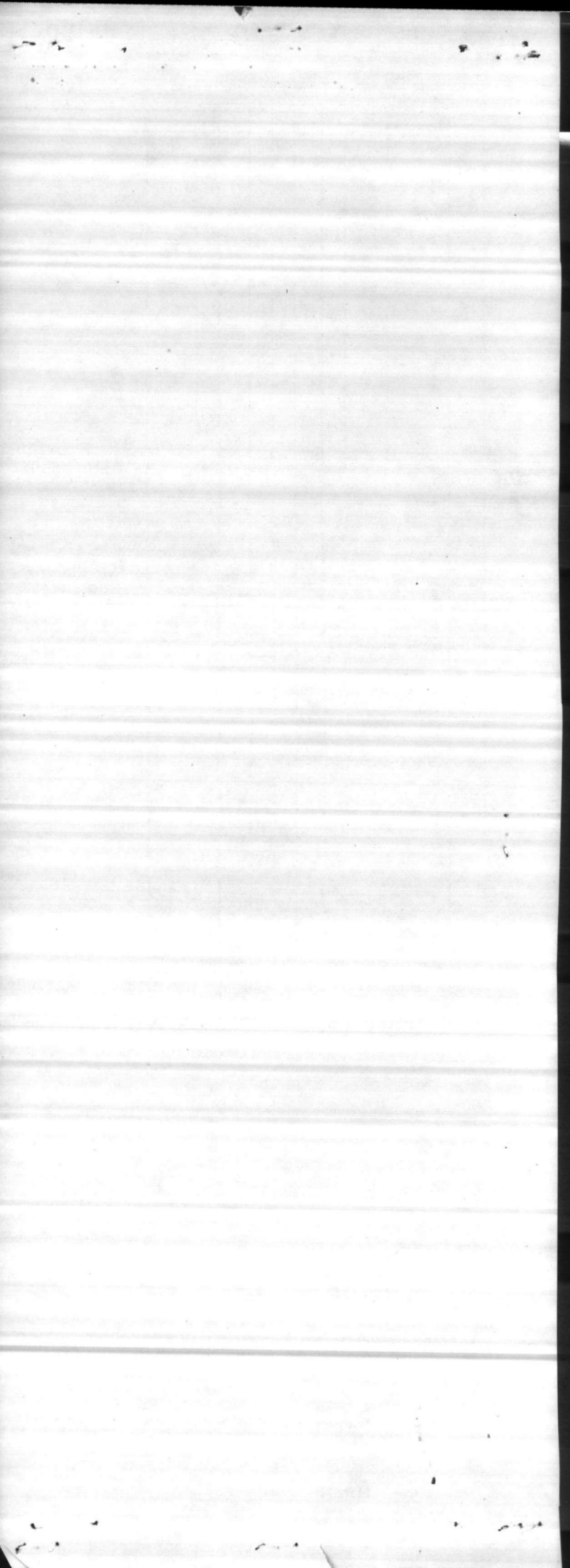
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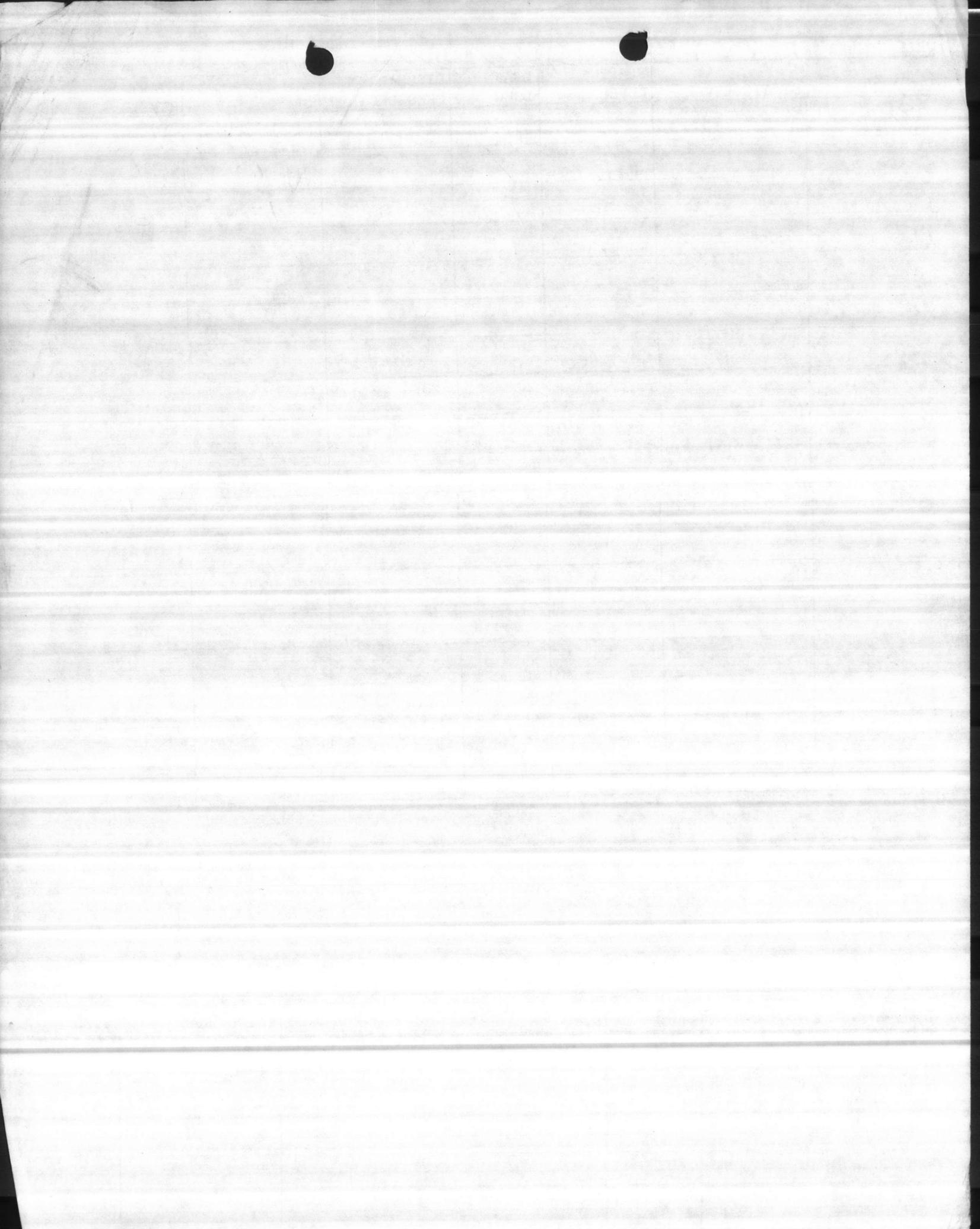
150 G.P.M. - DUAL DRIVE - 15 H.P.

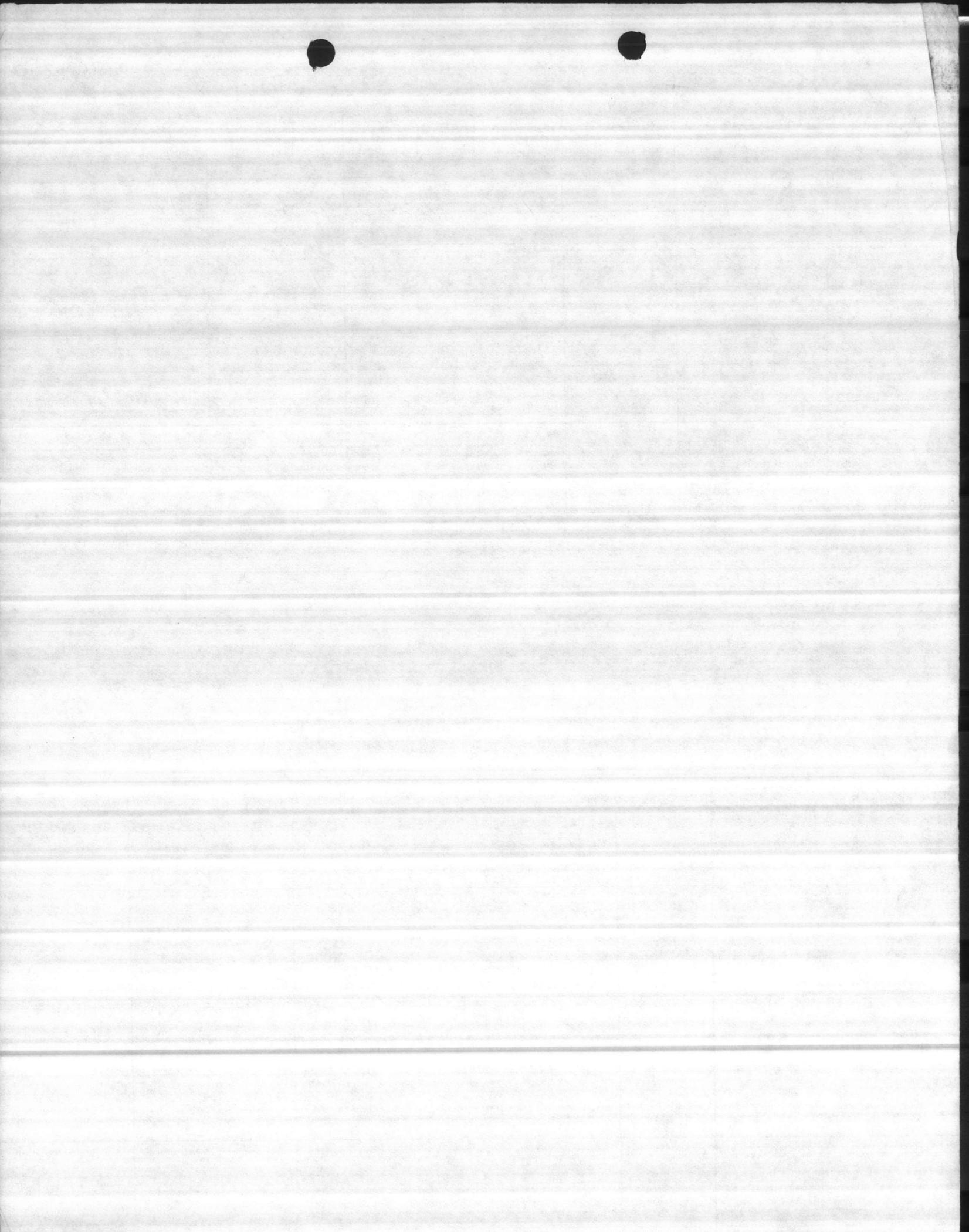


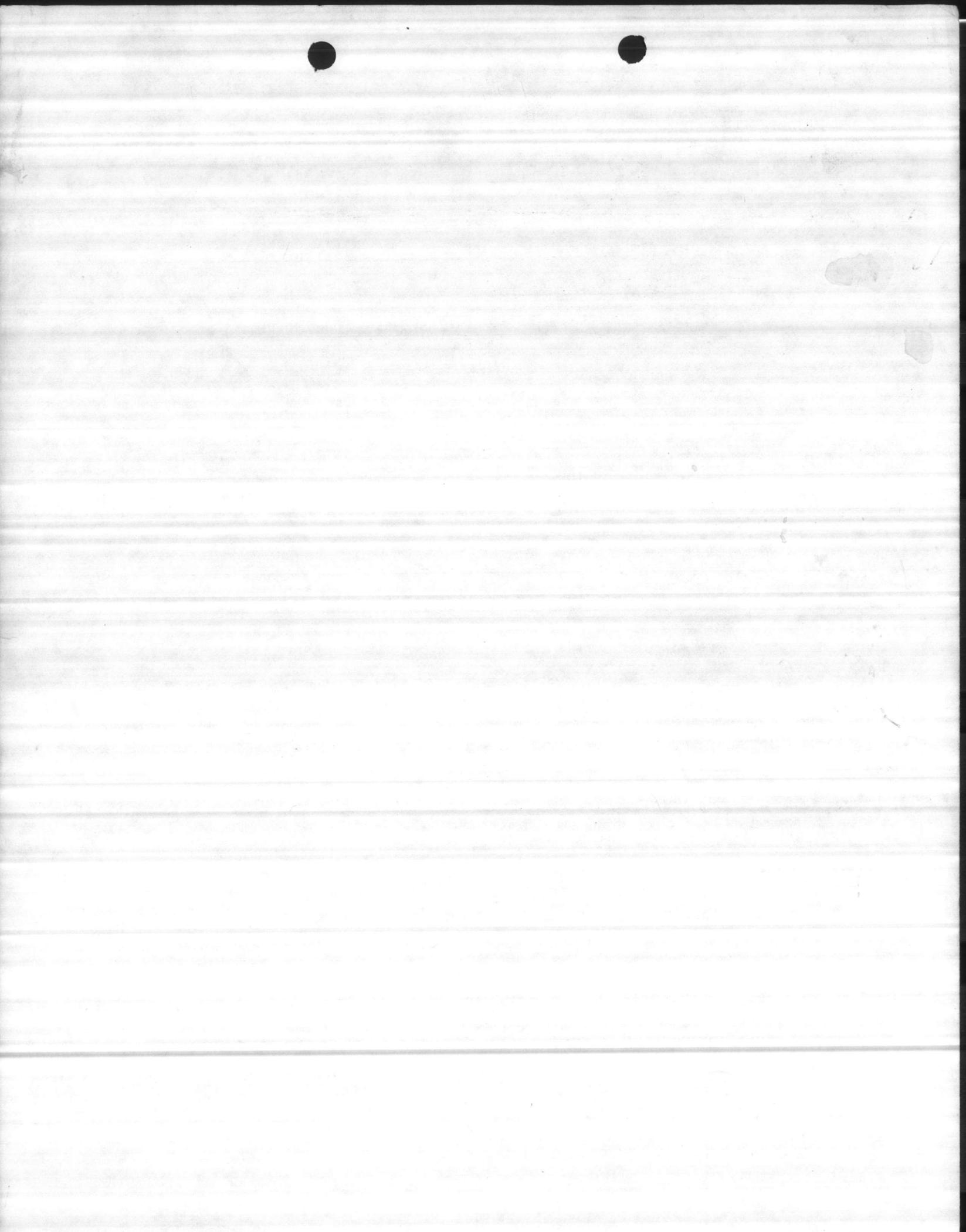
EXISTING PUMP OPERATION
TEST NOV. 1944

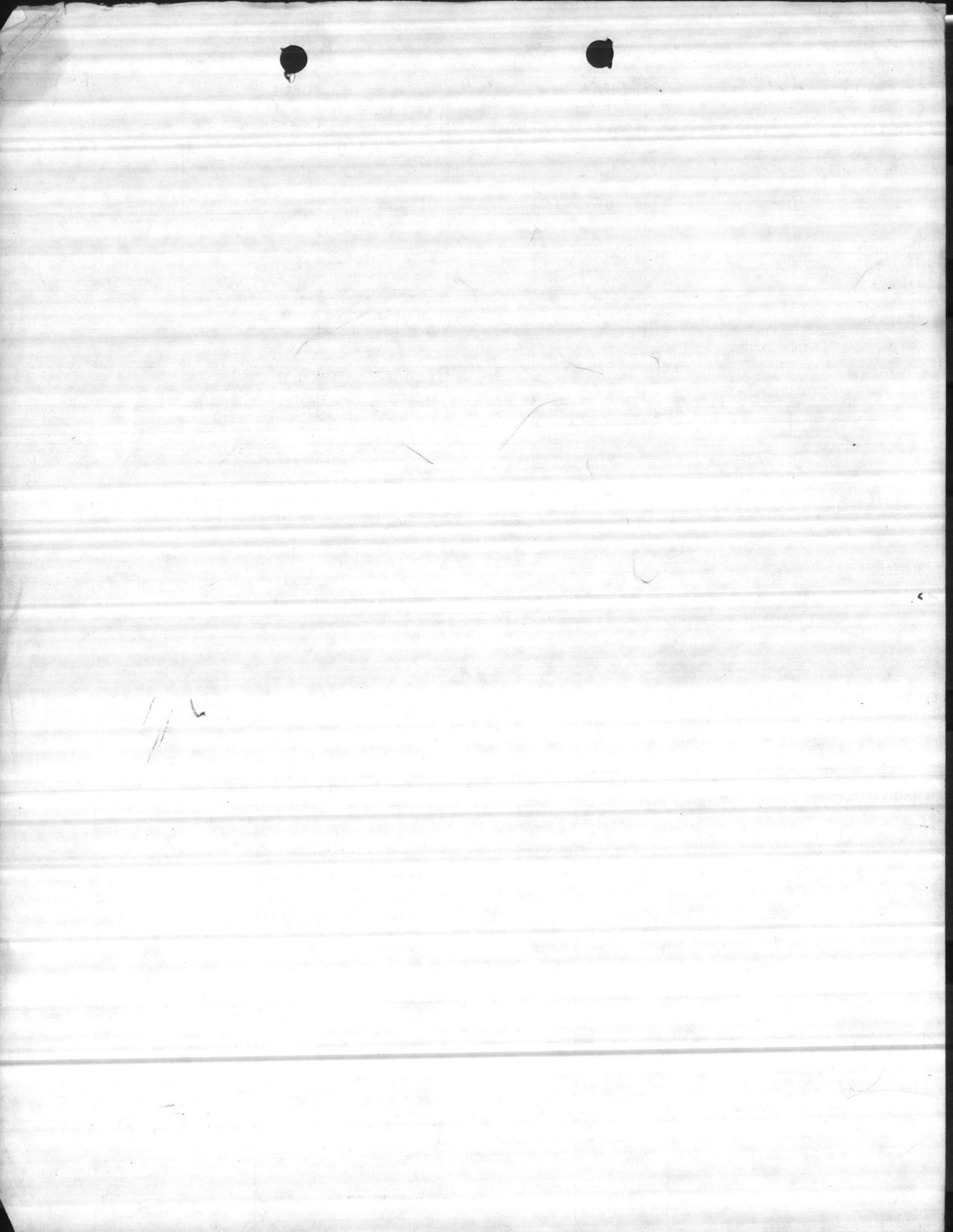
RIFLE RANGE WELL "S"

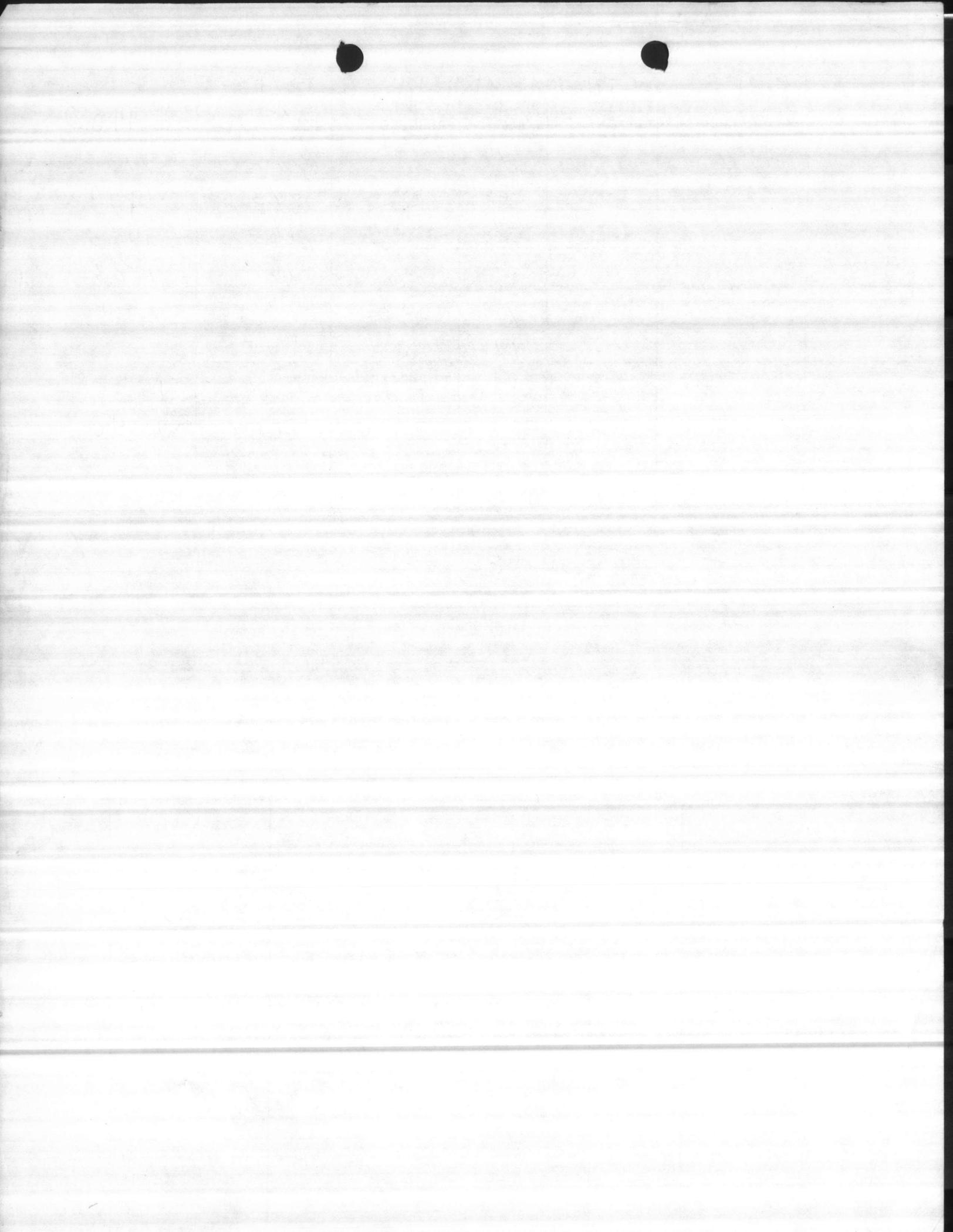












U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
OFFICE OF WATER DATA COORDINATION
INVENTORY OF HYDROLOGIC DATA STATIONS
QUALITY OF WATER

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

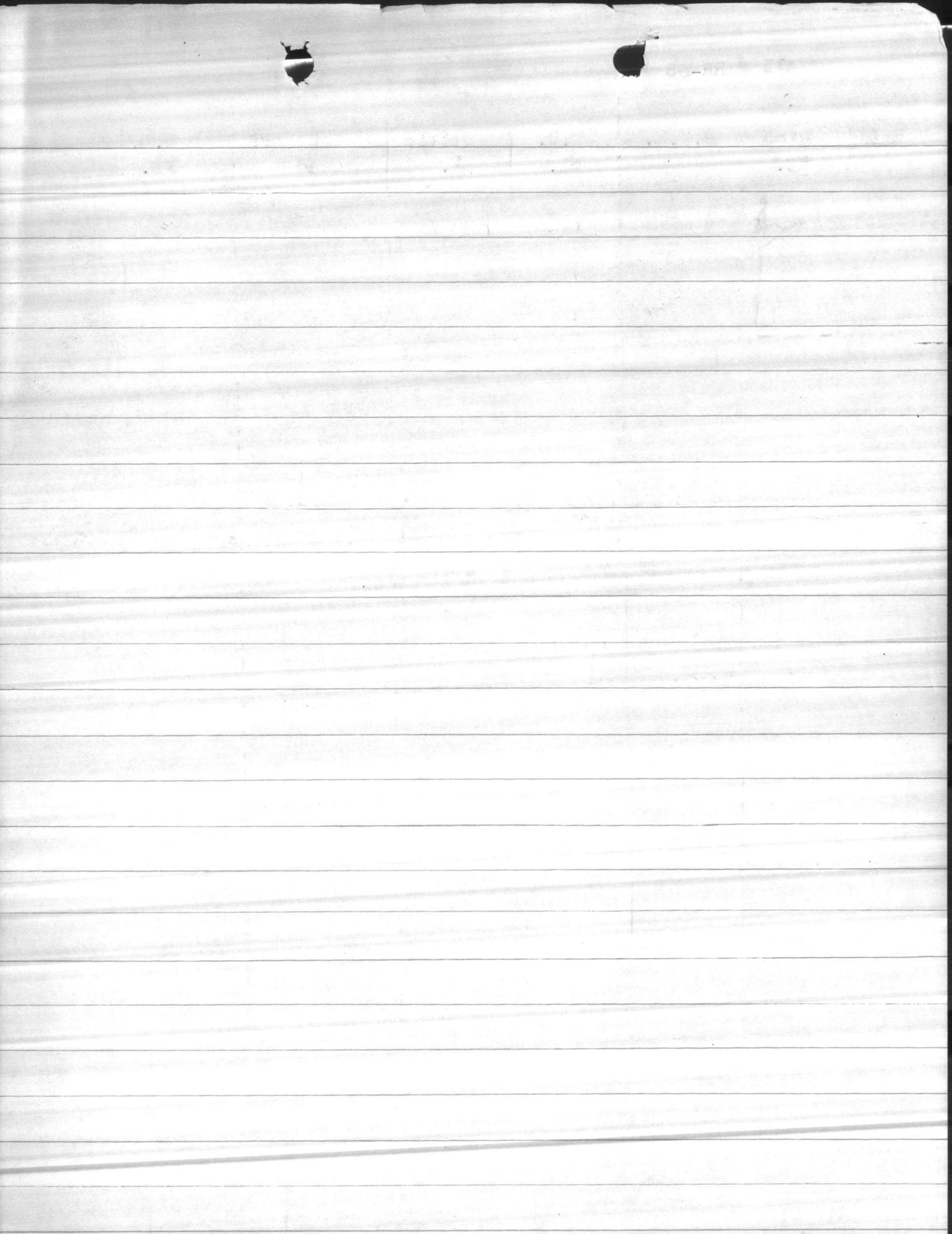
1. AGENCY CODE <p style="text-align:center;">MC</p>	2. TYPE <p style="text-align:center;">Q</p>	3. LATITUDE <p style="text-align:center;">0 1 " N</p> <p style="text-align:center;">34 35 20</p>	4. LONGITUDE <p style="text-align:center;">0 1 " W</p> <p style="text-align:center;">77 26 58</p>	5.
6. AGENCY STATION NO. <p style="text-align:center;">RR15</p>		7. STATION NAME		
8. DRAINAGE BASIN CODE No. Letter <p style="text-align:center;">6 N</p>		9. STATE CODE <p style="text-align:center;">32</p>	10. COUNTY CODE <p style="text-align:center;">133</p>	11. COUNTY NAME <p style="text-align:center;">ONSLow</p>
12. PERIOD OF RECORD Began Discontinued <p style="text-align:center;">1943</p>		13. <input type="checkbox"/> Continuous <input type="checkbox"/> Interruption Exceeds 1 Year		14.
15. SITE				
<input type="checkbox"/> 101 Stream		<input type="checkbox"/> 103 Lake		<input type="checkbox"/> 106 Spring
<input type="checkbox"/> 102 Canal		<input type="checkbox"/> 104 Reservoir		<input checked="" type="checkbox"/> 107 Well
		<input type="checkbox"/> 105 Estuary		<input type="checkbox"/> 110 Other
16. FREQUENCY OF MEASUREMENT				
<input type="checkbox"/> 201 Continuous Recorder		<input type="checkbox"/> 203 Daily		<input type="checkbox"/> 207 Seasonal
<input type="checkbox"/> 202 Telemetered		<input type="checkbox"/> 204 Weekly		<input type="checkbox"/> 208 Annual
		<input type="checkbox"/> 205 Monthly		<input type="checkbox"/> 209 Other Periodic
		<input type="checkbox"/> 206 Quarterly		<input checked="" type="checkbox"/> 210 Occasional
17. TYPES OF DATA AVAILABLE				
<i>Physical</i>		<i>Chemical</i>		<i>Organic</i>
<input type="checkbox"/> 311 Temperature		<input type="checkbox"/> 331 Dissolved solids		<input type="checkbox"/> 351 Pesticides (insecticides, herbicides, etc.)
<input type="checkbox"/> 312 Specific Conductance		<input checked="" type="checkbox"/> 332 Chlorides Only		<input type="checkbox"/> 352 Synthetic detergents
<input type="checkbox"/> 313 Turbidity		<input type="checkbox"/> 333 Nutrients (Nitrogen and phosphorus compounds)		<input type="checkbox"/> 353 Other
<input type="checkbox"/> 314 Color		<input type="checkbox"/> 334 Common ions		<i>Biologic</i>
<input type="checkbox"/> 315 Odor		<input checked="" type="checkbox"/> 335 Hardness		<input type="checkbox"/> 361 Coliforms
<input type="checkbox"/> 316 Radioactivity		<input type="checkbox"/> 336 Radiochemical		<input type="checkbox"/> 362 Other Micro-organisms
<input checked="" type="checkbox"/> 317 pH (field)		<input type="checkbox"/> 337 Dissolved oxygen		<input type="checkbox"/> 363 BOD
<input checked="" type="checkbox"/> 318 pH (lab)		<input type="checkbox"/> 338 Other Gases		<input type="checkbox"/> 364 Other
<input type="checkbox"/> 319 Eh		<input type="checkbox"/> 339 Other		<i>Sediment</i>
<input type="checkbox"/> 320 Other				<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"/> 423 Water Stage or Level		<input type="checkbox"/> 425 Time of Travel
<input type="checkbox"/> 422 Ground Water Station		<input checked="" type="checkbox"/> 424 Water discharge		<input type="checkbox"/> 426 Drainage Area
19. STORAGE OF DATA				
<input type="checkbox"/> 501 Periodic Report		<input checked="" type="checkbox"/> 503 Not Published		<input type="checkbox"/> 505 Data on Magnetic Tape
<input type="checkbox"/> 502 Areal Report		<input type="checkbox"/> 504 Data on Punched Card		<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, NC 28542</u>				<u>0735</u>
21. OFFICE COMPLETING FORM				
<u>BASE MAINTENANCE DEPARTMENT</u>				
22. COMPILER'S NAME				23. DATE
				Month <u>09</u> Year <u>1966</u>



Well # RR-45

Date	Line Ft.	G.P.M.	D.D. Ft.	Static Ft. 6. MIN.	Shut off Head	D.D. Ft.	(OPER-LEVEL)
6-1-53	113	180	-8.3	+1.3	92 LBS.	9.6	
"	138	165	-7.3	-	-	8.6	
"	92.5	215	-10.3	-	-	11.6	
new. Pump 150 GPM X 205' hd. Pump setting 90ft.							
6-5-57	new Johnston Pump put in operation by Heater						
6-5-57	-	-	34	43 ft.	-	9 ft.	
6-10-57	D.D.	8 PM	Stage	43 ft.	-	-	
4-15-63	26	149	LINE	49			

6-5-57 → Air Line 9.0 FT. LOWER FL. - 3.3



WELL + PUMP RR. 45' - 3-10-65

NEW. JOHNSON PUMP + MOTOR INSTALLED -
BY HARTSFIELD.

MEASURED WATER LEVEL - PUMP BASE TO WATER - 50'

AIRLINE, NEW. 86'-3" LOWER EL. AIRLINE. - 29.3

PUMPING - 135 to 140 GPM.

RATED CAP -

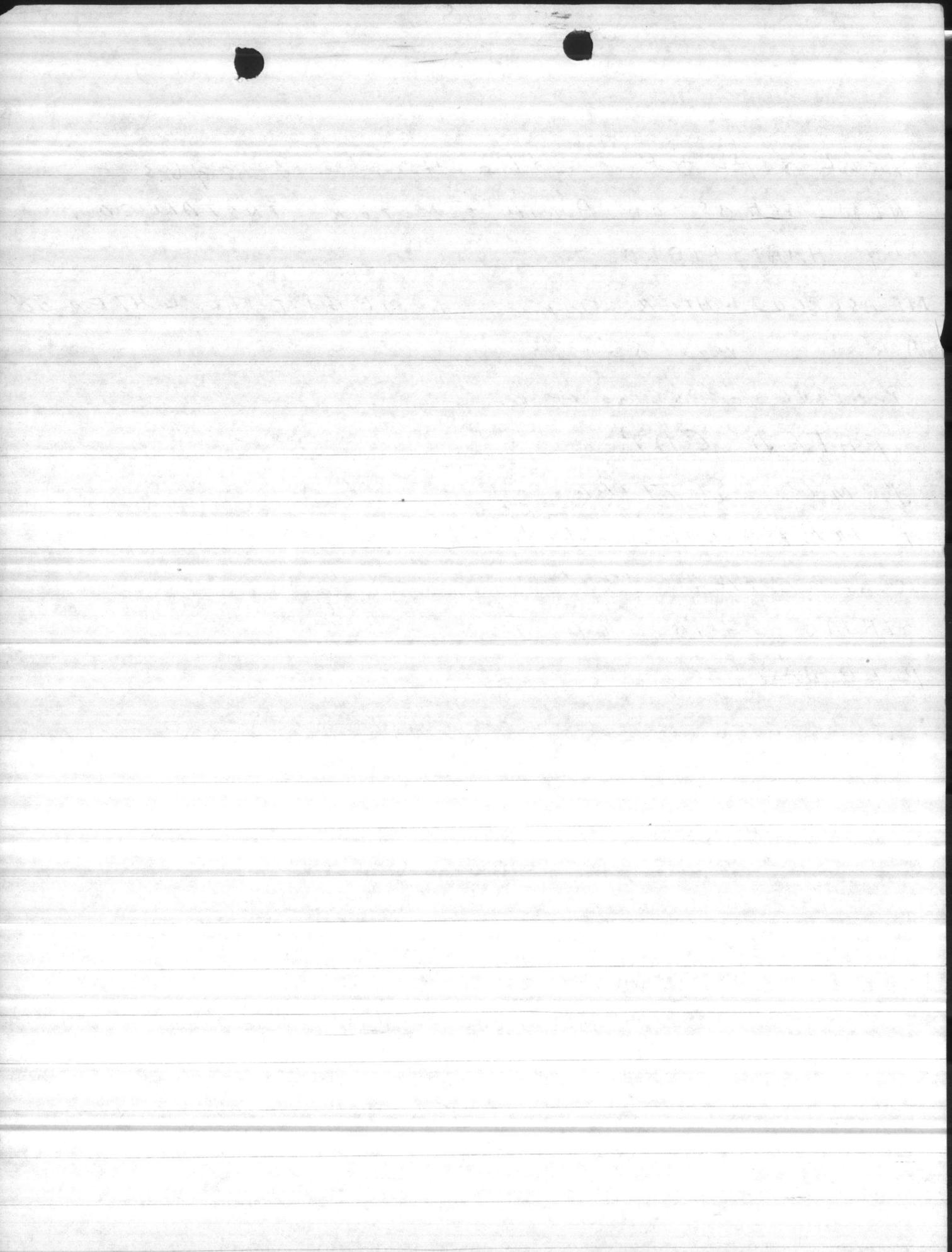
PUMP. SETTING. -

PUMP BASE EL. + 56.7'

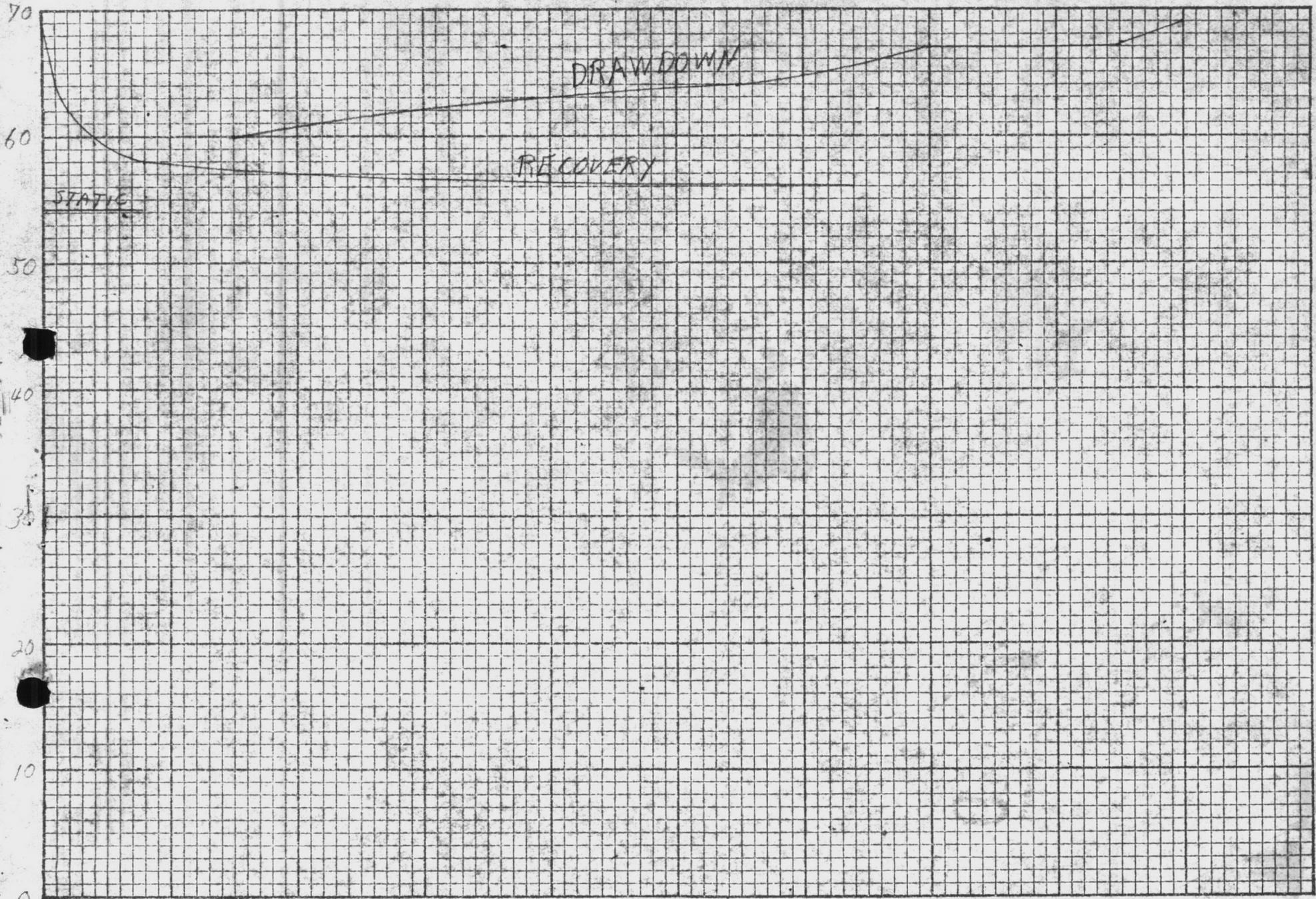
WELL DEPTH. 130'

STATIC - + 10. 6.10.57

~~PUMP BASE EL.~~



647001-2



WATER LEVEL

GPM	70	80	90	100	110	120	130	140	150
MINUTES	5	10	15	20	25	30	35		

MARCH 4, 1957

DATA SHEETS

CAMP LEJEUNE
SPEC # 3885

NO. 700-10

CHARLES BRUNING COMPANY, INC.
10 x 10 to the Inch.
PRINTED IN U. S. A.

WELL 5.
RIFLE RANGE



HYDRAULIC PERFORMANCE IS CONTINGENT ON WELL FINISHING PUMP WITH CLEAR, FRESH NON-AERATED OR NON-GASEOUS WATER FREE FROM DETRITUS WITH NO SUCTION LIFT AND TEMPERATURE NOT TO EXCEED 85 DEGREES FAHRENHEIT

NOTE: ALL COLUMN LOSSES ARE INCLUDED

CUSTOMER: _____

P.O.# _____

DEALER: HEATER WELL Co

P.O.# _____

JOHNSTON SERIAL: _____

Pump # 5

CHANGE EFFICIENCY AS FOLLOWS	NUMBER OF POINTS	FOR NUMBER OF STAGES

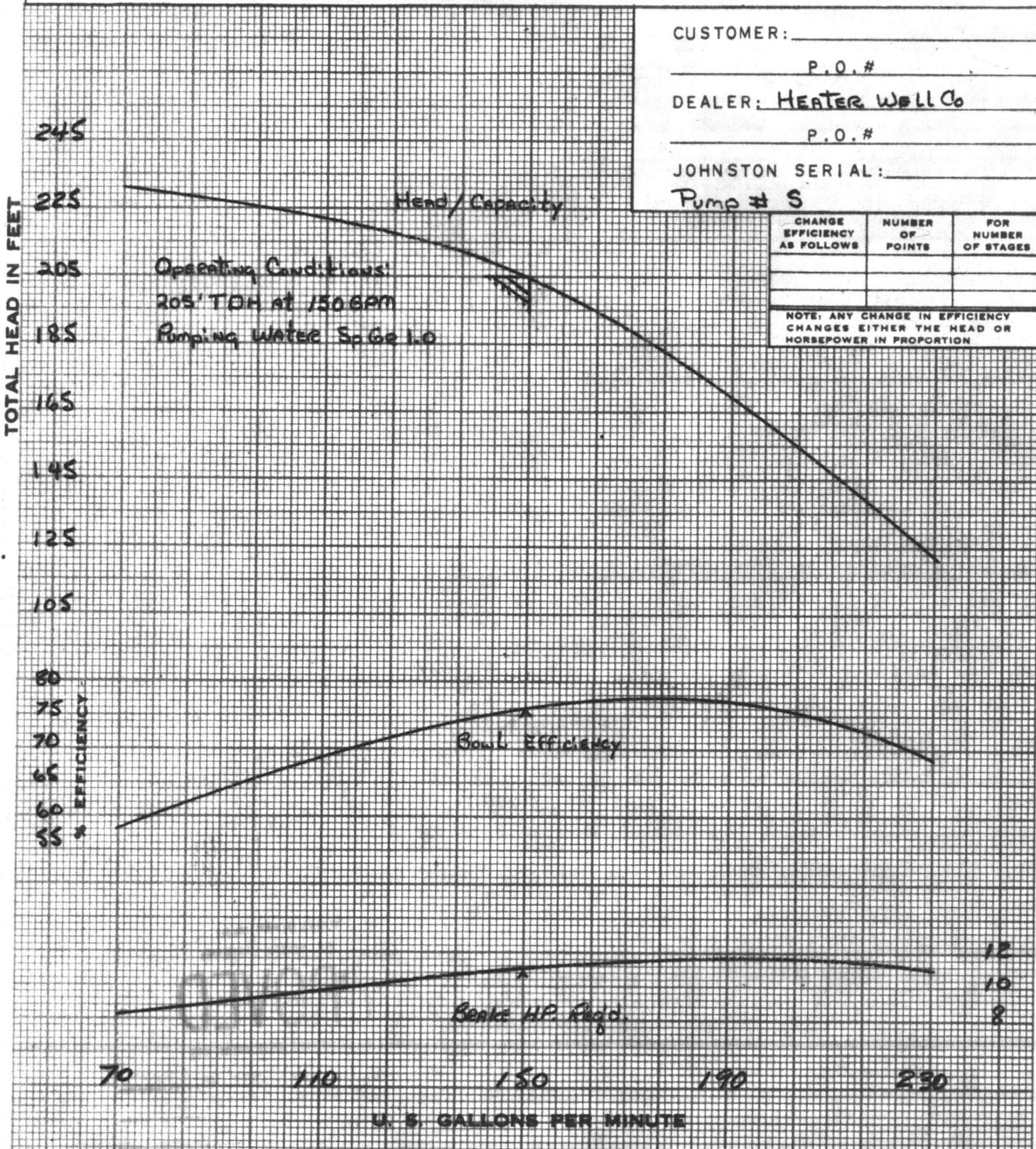
NOTE: ANY CHANGE IN EFFICIENCY CHANGES EITHER THE HEAD OR HORSEPOWER IN PROPORTION

TOTAL HEAD IN FEET

EFFICIENCY

HORSE POWER

647001-5



IMPELLER 5 5/16
BRZ. DIA.

JOHNSTON PUMP CO.

PERFORMANCE 10 STAGE



VERTICAL PUMPS

700 DEEP WELL TURBINE PUMP

1800 R. P. M.

DATE: 3-18-57 BY: JOM

PASADENA • CALIFORNIA • USA

CURVE SHEET No. _____

1-20-57

PUBLIC WORKS DEPARTMENT
CAMP LEJEUNE, NORTH CAROLINA

APPROVED

SUBJECT TO CONTRACT REQUIREMENTS

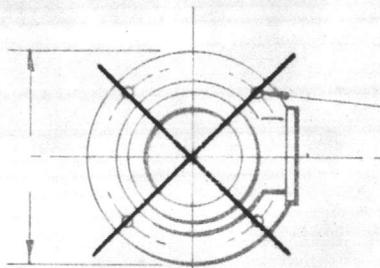
CONTRACT NO. 3885 SPEC. NO. 3885b6

TITLE Repairs to Well Pumps

DATE: 3-27-57 W. J. Evans, Jr. AS

BY DIRECTION OF OFFICER
IN CHARGE OF CONSTRUCTION

JOHNSTON VERTICAL TURBINE PUMP



4- DIA. HOLES

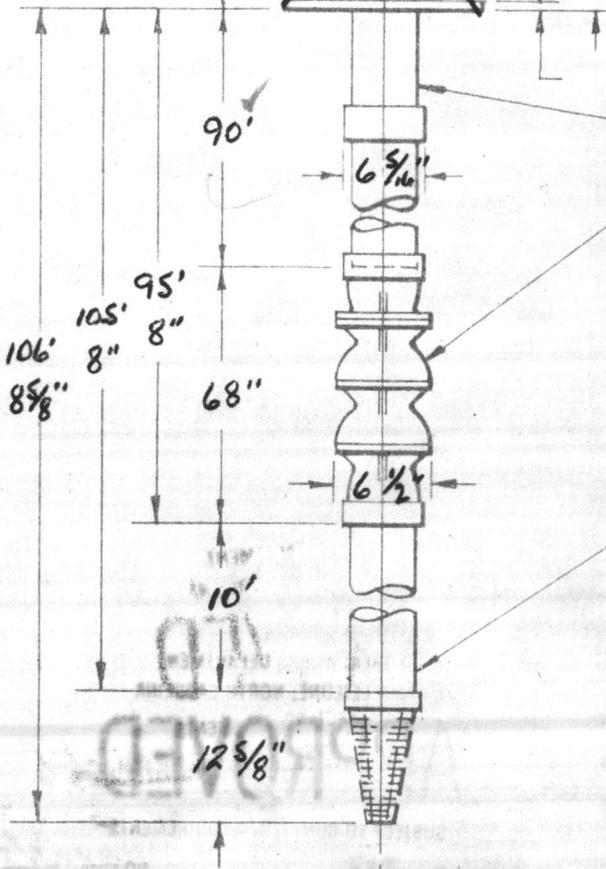
Furnished By Others

VERTICAL HOLLOW SHAFT MOTOR

HP	PHASE	CYCLE
	VOLT	RPM
ENCLOSURE		

Furnished By Others

→ TYPE "A" DISCHARGE HEAD
" X 125# FLANGE



GWT
5" X 2" X 1 3/16" COLUMN ASSEMBLY

10 STAGE 7CC BOWL ASSEMBLY

CONDITIONS:
150 USGPM
205 FT. TOTAL HEAD
LIQUID WATER
SPEC. GRAV 1.0 @ °F PUMPING TEMP.

5" SUCTION PIPE 5" CONE STRAINER

CUSTOMER

PC#

DEALER *HEATER WELL Co.*

PO#

JOHNSTON SERIAL #

JOHNSTON QUOTATION #

NOTE: DO NOT USE FOR CONSTRUCTION
UNLESS CERTIFIED

Pump # S

PUBLIC WORKS DEPARTMENT
CAMP LEJEUNE, NORTH CAROLINA

APPROVED

SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT NO. 3885 SPEC. NO. 3885/56

TITLE Repairs to Hull Pumping

DATE: 3.27.57 W. F. Evans, Jr.

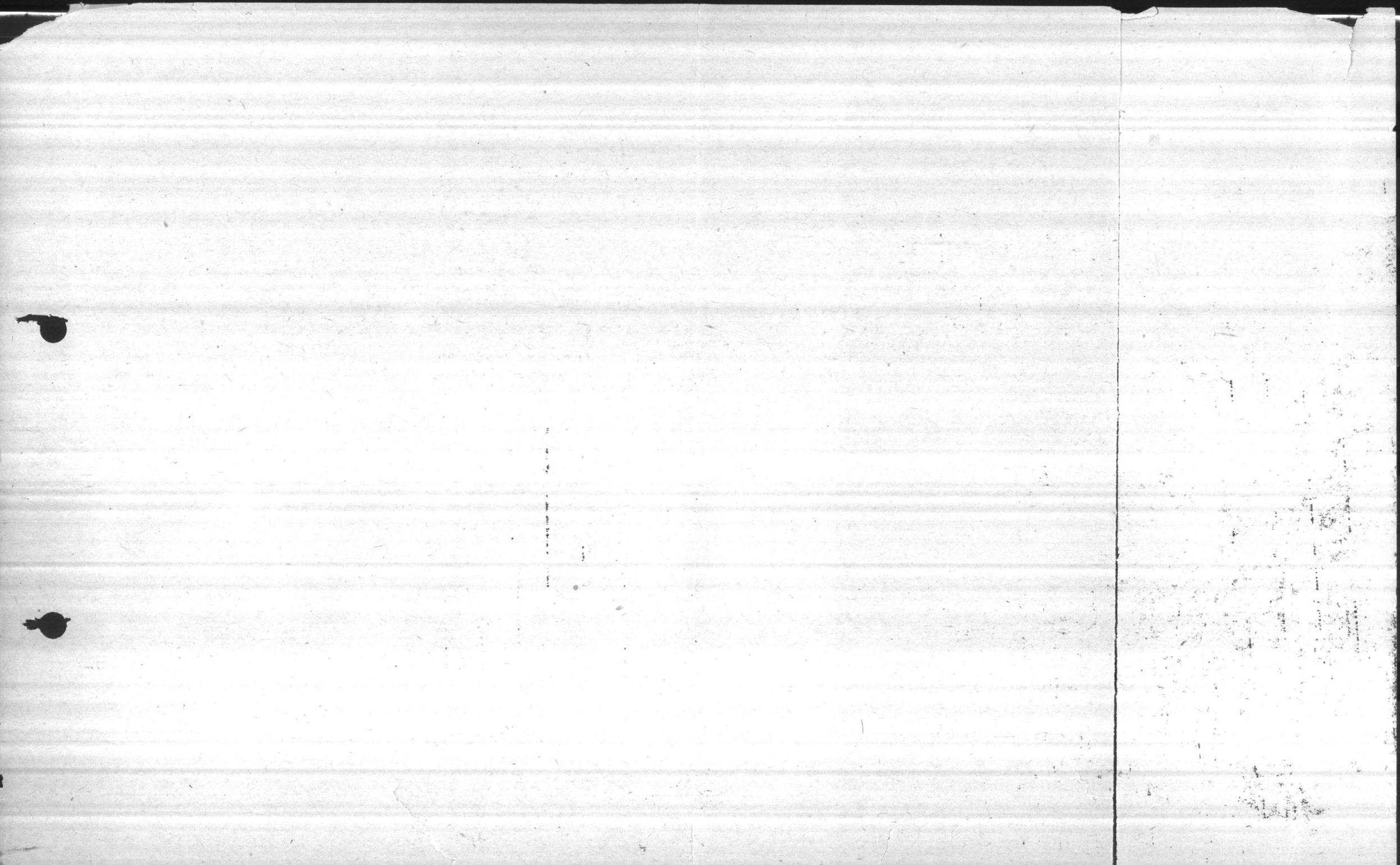
BY DIRECTION OF OFFICER
'N CHARGE OF CONSTRUCTION

LB

(2) 5 - Rifle Range

45

Date	Calc	moalk	Cl _r	pH	fe	Hardness
5/21/42	0	130	15	7.7		140
5/27/42	0	140	15	7.7	1.1	150
5/28/43	0	115	9	7.7	0.3	96
8/2/44	0	123	10	7.5	1.3	96
8/3/44	0	125	10	7.5	1.2	124
5/7/44	0	125	16	7.1	0.3	113
Total		758	75	45.2	4.2	719
Average	0	126	12.5	7.5	0.84	119



44 - -
WELL # 8

PLACE - Rifle Range

DATE - 13 Feb 1957

ORIGINAL WELL CAPACITY G.P.M. 150

ORIGINAL WELL		TESTING	
Depth of Well	130	Depth after Cleaning	130
Pump Size		Test Pump Setting	90
Pump Setting	90	Measured Static Water Level	54.2
Static Water Level	0 4 00	Depth of Air Line	90

Static on gauge 56' 0" *ES*

CONDITION OF WELL - **Cleaned 20' of sand out of well. Existing pump was broken during removal. One bowl was removed and pump replaced. Capacity same.**

STATIC LEVEL ON GAUGE

Inches of water in dizometer tube	G.P.M.	30 Min.	45 Min.	60 Min.	1 Hour
	75	PL	PL	PL	PL 60
	90	PL	PL	PL	PL 62
	115	PL	PL	PL	PL 64
	130	PL	PL	PL	PL 67
	145	PL	PL	PL	PL 67
	150	PL	PL	PL	PL 69
		PL	PL	PL	PL
		PL	PL	PL	PL
		PL	PL	PL	PL
		PL	PL	PL	PL
		PL	PL	PL	PL

RECOVERY

10 Sec.		67
20	PL	66
30	PL	64
40	PL	64.5
50	PL	63
60	PL	62
2 Min.	PL	59.5
4	PL	58
8	PL	57
16	PL	56.5
32	PL	56

WATER ANALYSIS

BY _____

DATE 8-3-44

Sample from WELL S

Total Solids _____ PPM

Dissolved Solids _____ PPM

Suspended Solids _____ PPM

Volatile Solids _____ PPM

Phenol. Alk. as CaCO₃ 0 PPM

Silica as SiO₂ _____ PPM

Total Alk. " " 125 "

Ferrous Iron as Fe _____ "

Bicarbonates " " _____ "

Aluminum as Al. _____ "

CARBONATES " " _____ "

Total Iron as Fe 1.2 "

Chlorides as Cl. 10 "

Calcium as Ca. _____ "

Sulphates as SO₄ _____ "

Magnesium as Mg. _____ "

Nitrites as NO₂ _____ "

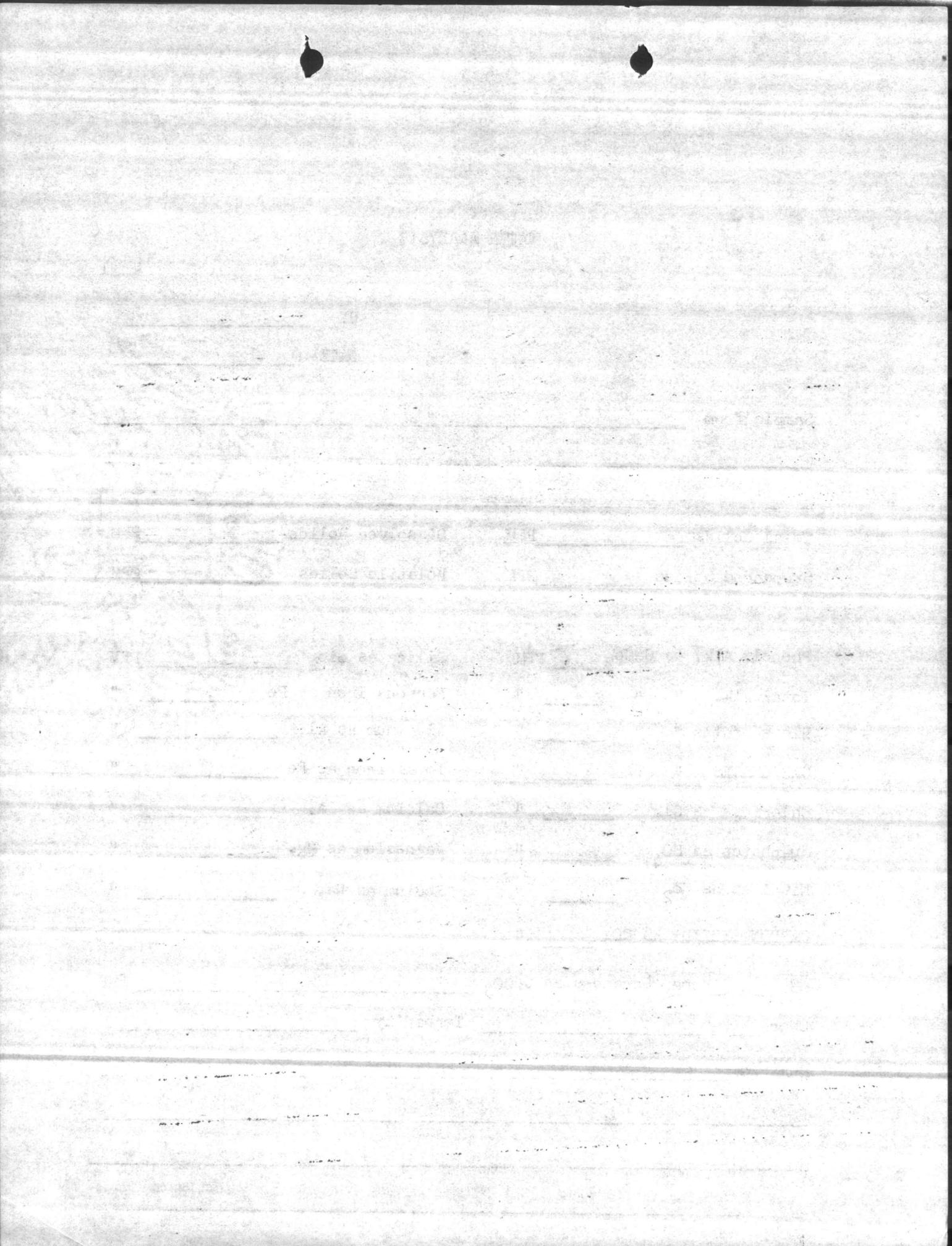
Sodium as Na. _____ "

CARBON DIOXIDE AS CO₂ _____ "

pH 7.5 Soap Hardness as CaCO₃ 124 PPM

Odor _____ Turbidity _____

Remarks _____



WATER ANALYSIS

BY _____

DATE 8-2-44

Sample from WELL - 5

Total Solids _____ PPM Dissolved Solids _____ PPM

Suspended Solids _____ PPM Volatile Solids _____ PPM

Phenol. Alk. as CaCO₃ 0 PPM Silica as SiO₂ _____ PPM

Total Alk. " " 123 " Ferrous Iron as Fe _____ "

Bicarbonates " " _____ " Aluminum as Al. _____ "

CARBONATES " " _____ " Total Iron as Fe 1.3 "

Chlorides as Cl. 10 " Calcium as Ca. _____ "

Sulphates as SO₄ _____ " Magnesium as Mg. _____ "

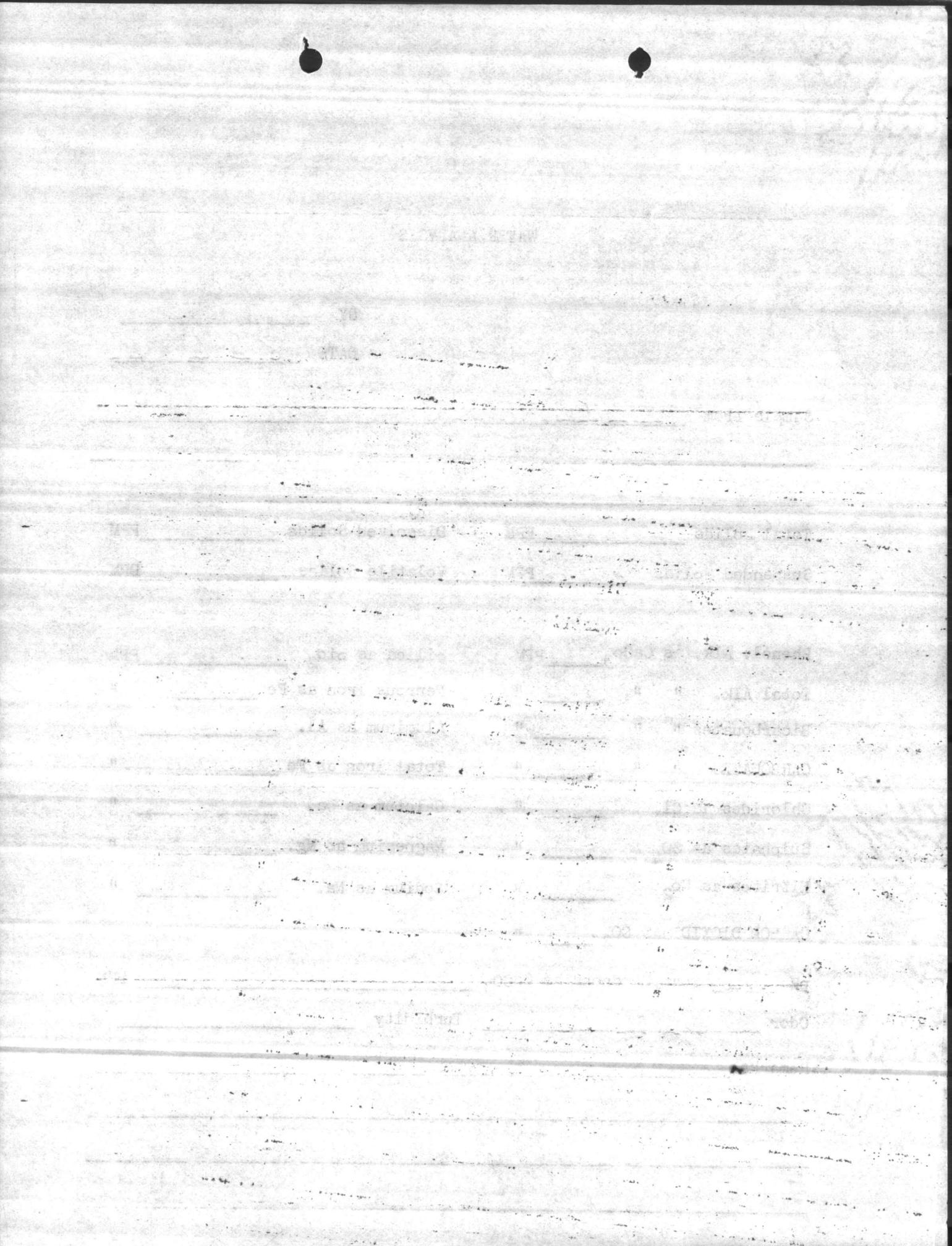
Nitrites as NO₂ _____ " Sodium as Na. _____ "

CARBON DIOXIDE AS CO₂ _____ "

pH 7.5 Soap Hardness as CaCO₃ 96 PPM

Odor 0 Turbidity _____

Remarks _____



WELL "S" - RIFLE RANGE

29 September, 1944

Elev. pump base	56.7
Elev. ground	54.7
Static water level	+ 0.7
Draw down 24.5'	-23.8
150 G.P.M. against 205' head	
Air line 92' Elev. DD. gauge	56.7

115 G.P.M. 76 lbs. pressure D.D. 64'	to Elev. - 7.3	T.H. 239'
145 G.P.M. 70 lbs. pressure D.D. 65'	to Elev. - 8.3	T.H. 226'
165 G.P.M. 65 lbs. pressure D.D. 66'	to Elev. - 9.3	T.H. 215'
175 G.P.M. 60 lbs. pressure D.D. 69'	to Elev. -12.3	T.H. 207'

Recovers to Elev. - 1.3 in 3 min.

SP. 2000

30.1	Level from base
31.1	Level from ground
32.1	Static water level
33.1	Level from S.W.
34.1	Level from S.W. (at 100 ft)
35.1	Level from S.W. (at 200 ft)

36.1	Level from S.W. (at 300 ft)
37.1	Level from S.W. (at 400 ft)
38.1	Level from S.W. (at 500 ft)
39.1	Level from S.W. (at 600 ft)

Recovery to level - 1.5 in 10 min.

Marine Barracks
New River, N.C.
June 12, 1942

Wells: Permanent Water Supply
By Layne Atlantic Co.
Report on Well No. 2, or Well S, at Rifle Range #45

Location: 65' west of Center line of Access Road at Station 53 & 67.

Date Drilled: May, 1942

Drilling Equipment: Rotary rig, bits, and equipment.

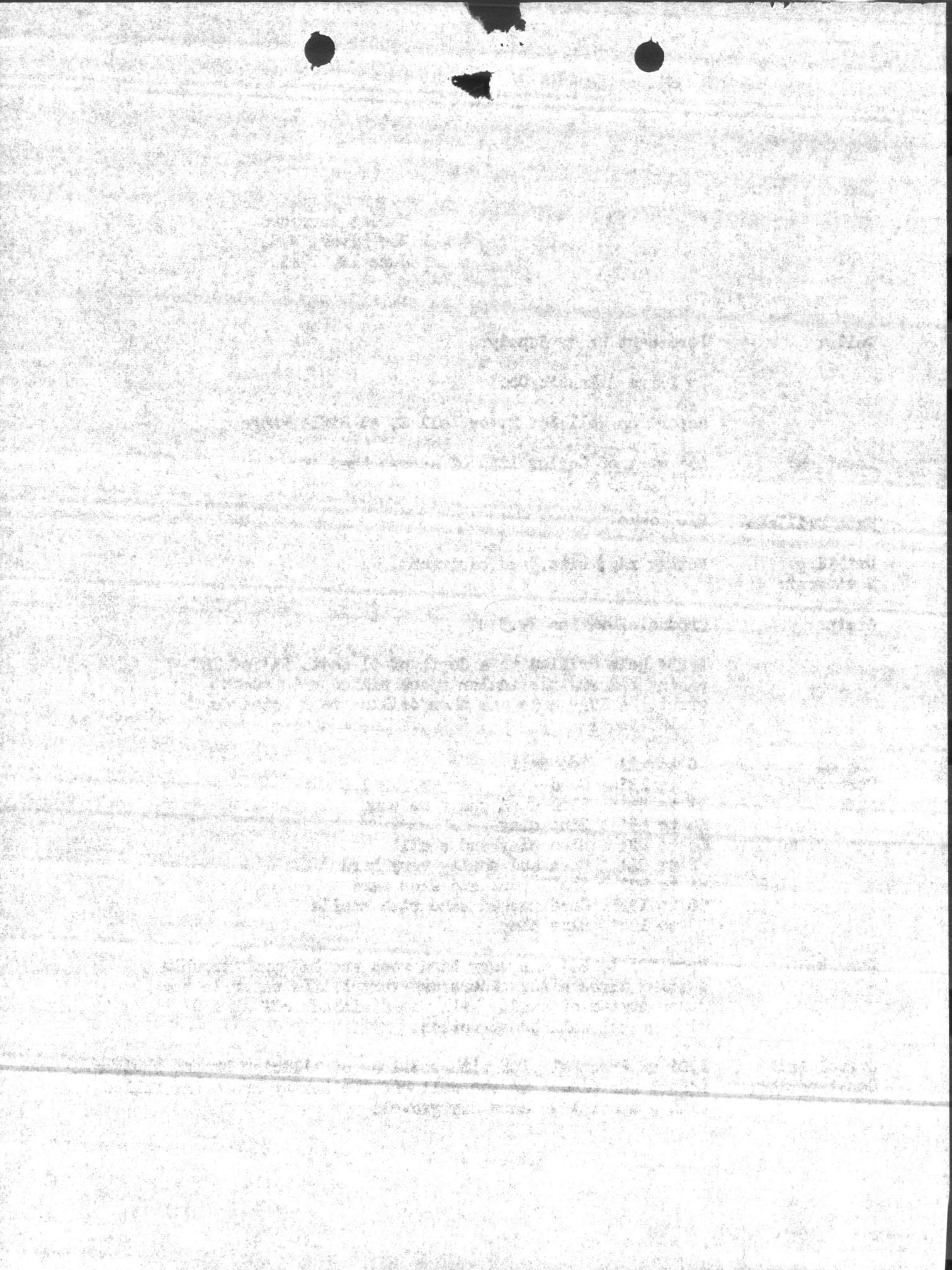
Status: Ground elevation 29.3

A 23" hole drilled to a depth of 51 feet. 51' of 18" casing set and the annular space filled with cement grout. A 17½" hole was then drilled to a total depth of 138 feet.

Log of Formations:	0 to 2'	Top Soil
	2 to 13'	Sand
	13 to 46'	Blue muck and fine sand
	46 to 65'	Blue clay
	65 to 82'	Blue clay and shell
	82' to 84'	Rock and shell, very hard
	84 to 96'	Shell rock and fine sand
	96 to 133'	Hard packed sand with shells
	133 to 138'	Blue clay

Remarks: From 82' to 84' was very hard rock and had much trouble cutting through it. There was very little water in the upper strata of sand. Well was finished off at 130' with gravel wall construction.

Gravel Wall Construction: 130' of 8" steel pipe with sections of silician bronze shutter screen was placed in the well and the annular space was filled with a special ¾" caps may gravel.



Continued -

Log of Screen	0 to 75'	8" pipe
Settings:	75 to 80'	8" bronze screen
	80 to 90'	8" pipe
	90 to 95'	8" bronze screen
	95 to 105'	8" pipe
	105 to 115'	8" screen
	115 to 125'	8" pipe
	125 to 130'	8" screen

The bottom of the screen was filled with a cement plug.
The steel pipe was of threaded joints and the screen was welded.

Air Line: 90 feet of $\frac{1}{4}$ " pipe was welded to the 8" pipe to be used for air line.

Static Level: 44" from surface.

Pumpings: Well pumps 130 GPM with a 19' draw down from static level.
Recovers to 10' below static in 5 mi.

Report will be made later of pump installation.

See separate report for chemical analysis.

N. H. Kellam
Asst. Chemical Engineer

