

## FILE FOLDER

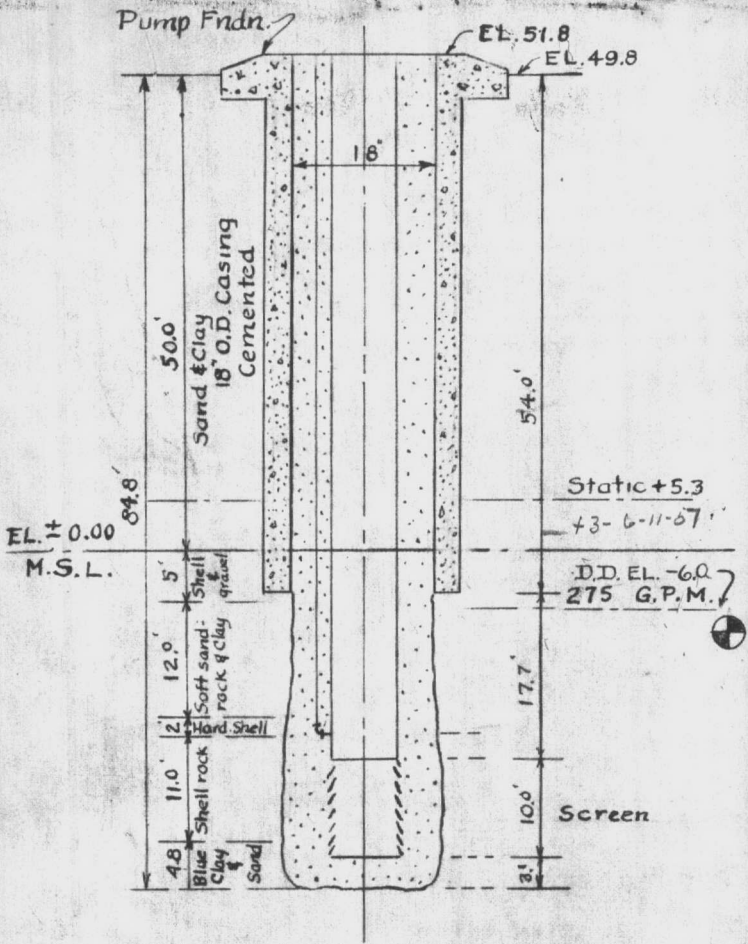
### DESCRIPTION ON TAB:

R.R. Well 47

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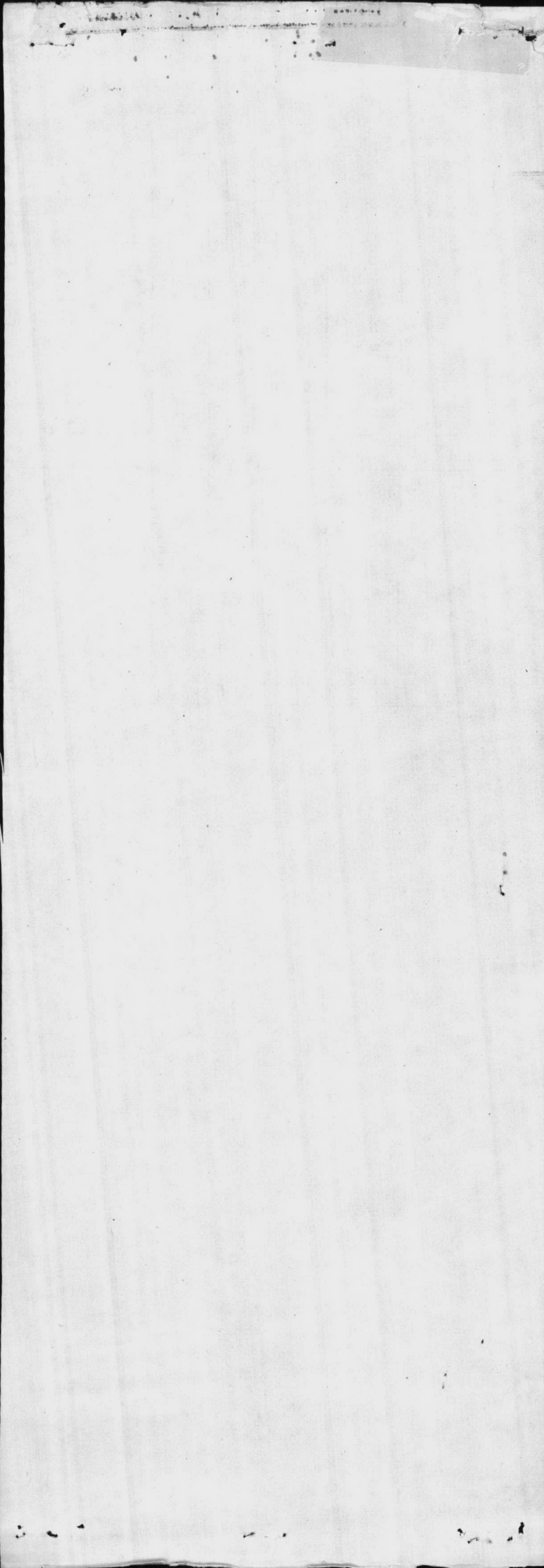
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- Outside/inside of actual folder did contain hand written information**  
**\*Scanned as next image**

250 G.P.M. SINGLE DRIVE - 20 H.P.

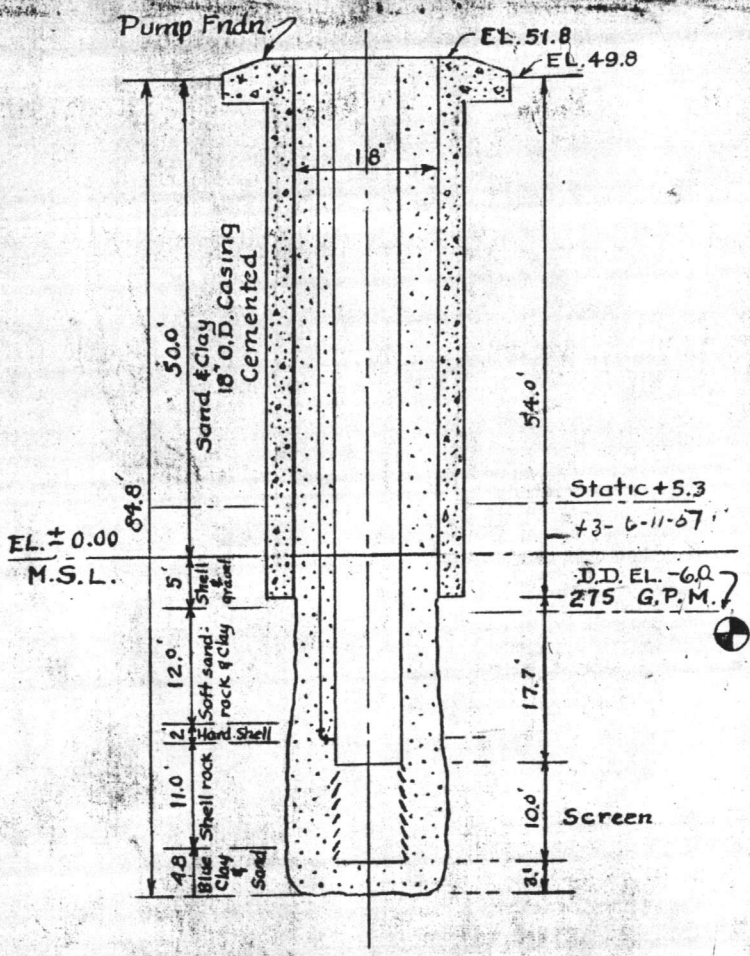


EXISTING PUMP OPERATION  
TEST NOV. 1944

RIFLE RANGE WELL S-1

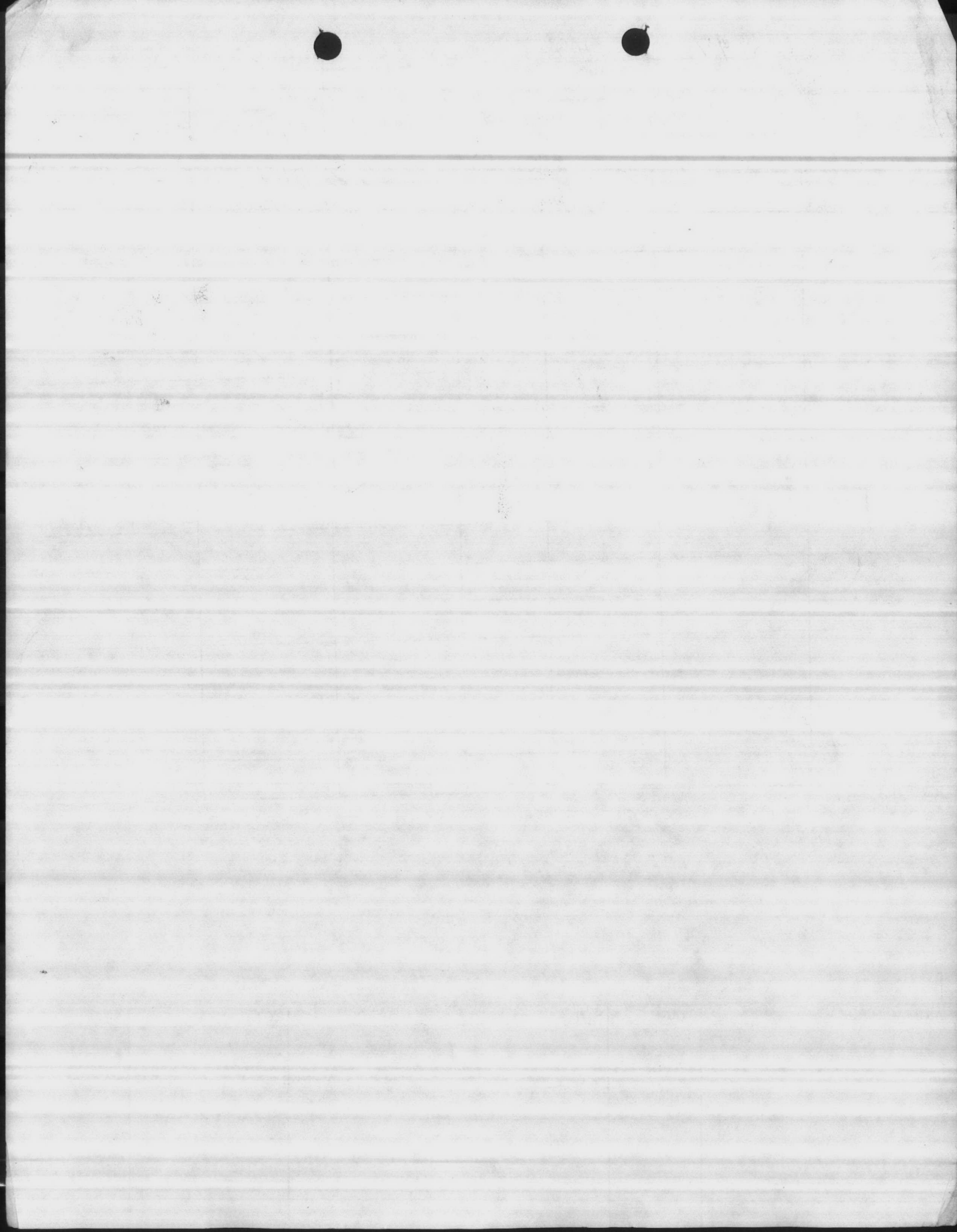


2 1/2 G.P.M. SINGLE DRIVE - 20HP



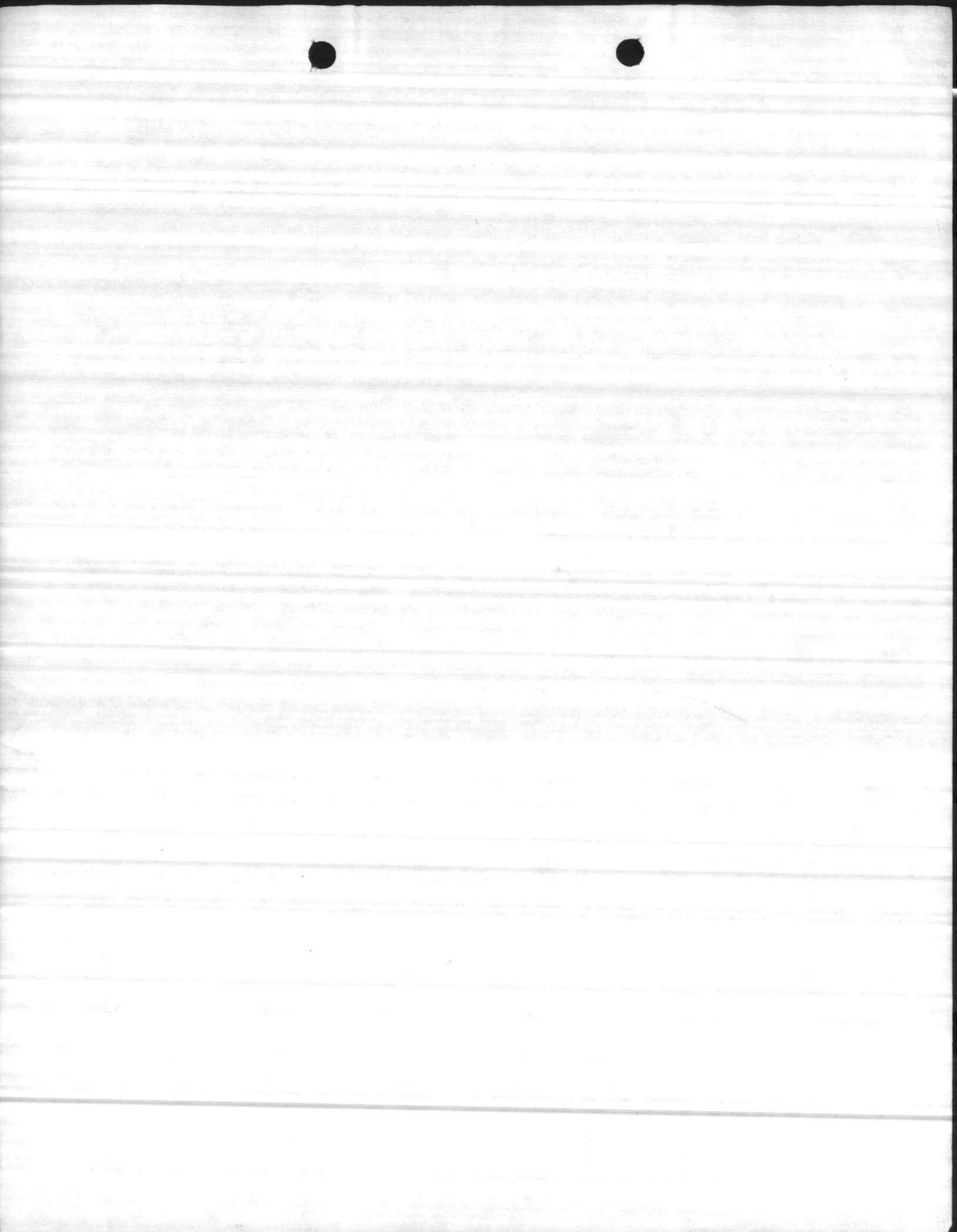












U.S. DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
OFFICE OF WATER DATA COORDINATION  
INVENTORY OF HYDROLOGIC DATA STATIONS  
QUALITY OF WATER

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

1. AGENCY CODE <b>MC</b>	2. TYPE <b>Q</b>	3. LATITUDE <b>34° 35' 38" N</b>	4. LONGITUDE <b>77° 27' 3" W</b>	5.
6. AGENCY STATION NO. <b>RR47</b>		7. STATION NAME <b>RR85-S1</b>		
8. DRAINAGE BASIN CODE No <b>6</b> Letter <b>N</b>		9. STATE CODE <b>32</b>	10. COUNTY CODE <b>133</b>	11. COUNTY NAME <b>ONslow</b>
12. PERIOD OF RECORD Began <b>1943</b> Discontinued		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>				
<input type="checkbox"/> 311 Temperature		<i>Chemical</i>		<i>Organic</i>
<input type="checkbox"/> 312 Specific Conductance		<input type="checkbox"/> 331 Dissolved solids		<input type="checkbox"/> 351 Pesticides (insecticides, herbicides, etc.)
<input type="checkbox"/> 313 Turbidity		<input checked="" type="checkbox"/> 332 Chlorides Only		<input type="checkbox"/> 352 Synthetic detergents
<input type="checkbox"/> 314 Color		<input type="checkbox"/> 333 Nutrients (Nitrogen and phosphorus compounds)		<input type="checkbox"/> 353 Other
<input type="checkbox"/> 315 Odor		<input type="checkbox"/> 334 Common ions		<i>Biologic</i>
<input type="checkbox"/> 316 Radioactivity		<input checked="" type="checkbox"/> 335 Hardness		<input type="checkbox"/> 361 Coliforms
<input type="checkbox"/> 317 pH (field)		<input type="checkbox"/> 336 Radiochemical		<input type="checkbox"/> 362 Other Micro-organisms
<input checked="" type="checkbox"/> 318 pH (lab)		<input type="checkbox"/> 337 Dissolved oxygen		<input type="checkbox"/> 363 BOD
<input type="checkbox"/> 319 Eh		<input type="checkbox"/> 338 Other Gases		<input type="checkbox"/> 364 Other
<input type="checkbox"/> 320 Other		<input type="checkbox"/> 339 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"/> 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 Punchcard		<input type="checkbox"/> 506 Other
20. OFFICE AT WHICH DATA AVAILABLE <b>BASE MAINTENANCE DEPARTMENT</b>				
Office _____				City Code
Street No. <b>MARINE CORPS BASE</b>				<b>0735</b>
City, State, Zip <b>CAMP LEJEUNE, N. C. 28542</b>				
21. OFFICE COMPLETING FORM <b>BASE MAINTENANCE DEPARTMENT</b>				
22. COMPILER'S NAME			23. DATE Month <b>09</b> Year <b>19 66</b>	



PHYSICAL AND CHEMICAL ANALYSIS OF WATER

SAMPLE NO. WW2-19  
DATE 29 February 1960

FROM: (Station or unit) U.S. Marine Corps Base, Camp Lejeune, North Carolina

TO: (Name and location of laboratory) DPWO Sanitary Engineering Laboratory, Bldg. 4-29, Naval Base, Norfolk 11, Virginia

SAMPLE FROM (Location of sampling point) Rifle Range Well No. 47 (S-1), Bldg. No. RR-47

COLLECTED BY Mr. R.L. Cox DATE 3 Feb. 1960 HOUR - SOURCE (Designate ground, surface, raw, treated) Ground

REASON FOR EXAMINATION E.S.R. DPWO PROJECT No. 09-2455 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 <del>FIELD</del> ANALYSIS			II. ROUTINE LABORATORY ANALYSIS		
1. pH	TEMPERATURE		(CHECK ONE)		
<u>7.6</u>	°F	°C <u>24.</u>	<input checked="" type="checkbox"/> REQUESTED	<input type="checkbox"/> NOT REQUESTED	
ITEM	PPM		1. COLOR		
2. CARBON DIOXIDE (CO <sub>2</sub> )			<u>25.</u>		
3. DISSOLVED OXYGEN (O <sub>2</sub> )			2. TURBIDITY		
4. HYDROGEN SULFIDE (H <sub>2</sub> S)			<u>11.5</u>		
5. CHLORINE DEMAND (Cl <sub>2</sub> )			3. ALKALINITY (CaCO <sub>3</sub> )		
FIELD ANALYSIS BY			P	MO	
DATE OF ANALYSIS			<u>0.0</u>	<u>178.</u>	
			4. TOTAL HARDNESS (CaCO <sub>3</sub> ) <u>187.7</u> (Ca & Mg) Hardness <u>181.3</u>		
			5. NON-CARBONATE HARDNESS (CaCO <sub>3</sub> ) (By Computation) <u>9.7</u>		
			6. CARBONATE HARDNESS (CaCO <sub>3</sub> ) (By Computation) <u>178.</u>		
			7. TOTAL DISSOLVED SOLIDS		
			8. SPECIFIC CONDUCTANCE (Micromhos) <u>330.</u>		

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		9. CALCIUM (Ca) <u>67.8</u>	
	2. Se		10. MAGNESIUM (Mg) <u>2.9</u>	
	3. Pb		11. SODIUM (Na) AND POTASSIUM (K) ** <u>4.5</u>	
	4. B		12. HYDROXIDE (OH)* (as CaCO <sub>3</sub> ) <u>0.0</u>	
	5. Cu		13. BICARBONATE (HCO <sub>3</sub> )* (as CaCO <sub>3</sub> ) <u>178.</u>	
	6. Zn		14. CARBONATE (CO <sub>3</sub> )* (as CaCO <sub>3</sub> ) <u>0.0</u>	
	7. Cr (Hexavalent)		15. SULFATE (SO <sub>4</sub> ) <u>1.6</u>	
X	8. PO <sub>4</sub>	<u>0.0</u>	16. CHLORIDE (Cl) <u>11.</u>	
	9. Cd		17. NITRATE (NO <sub>3</sub> ) <u>-</u>	
	10. CN		18. IRON (Fe) TOTAL <u>2.4</u>	
	11. Phenolic Compounds (PPB)		19. MAGANESE (Mn) <u>0.0</u>	
	12. Others (Specify)		20. SILICA (SiO <sub>2</sub> ) <u>21.</u>	
X	13. Aluminum (Al)	<u>0.0</u>	21. FLUORIDE (F) <u>0.0</u>	
	14.			
	15.			
	16.			

REMARKS (Such as unusual appearance, taste, odor, etc.) \*Computed from P and MO alkalinity  
\*\*Computed

LABORATORY ANALYSIS BY George T. Earnest, Jr., Chemist DATE OF ANALYSIS 29 February 1960

Form with multiple sections and fields, including headers like 'ROUTINE LABORATORY ANALYSIS' and 'SPECIAL LABORATORY ANALYSIS'. The text is mirrored and difficult to read due to the image quality.

ROUTINE LABORATORY ANALYSIS

SPECIAL LABORATORY ANALYSIS

TESTED BY: [Faint text]

TESTED BY: [Faint text]

DATE: [Faint text]

DATE: [Faint text]

TEST NO.: [Faint text]

TEST NO.: [Faint text]

TESTER: [Faint text]

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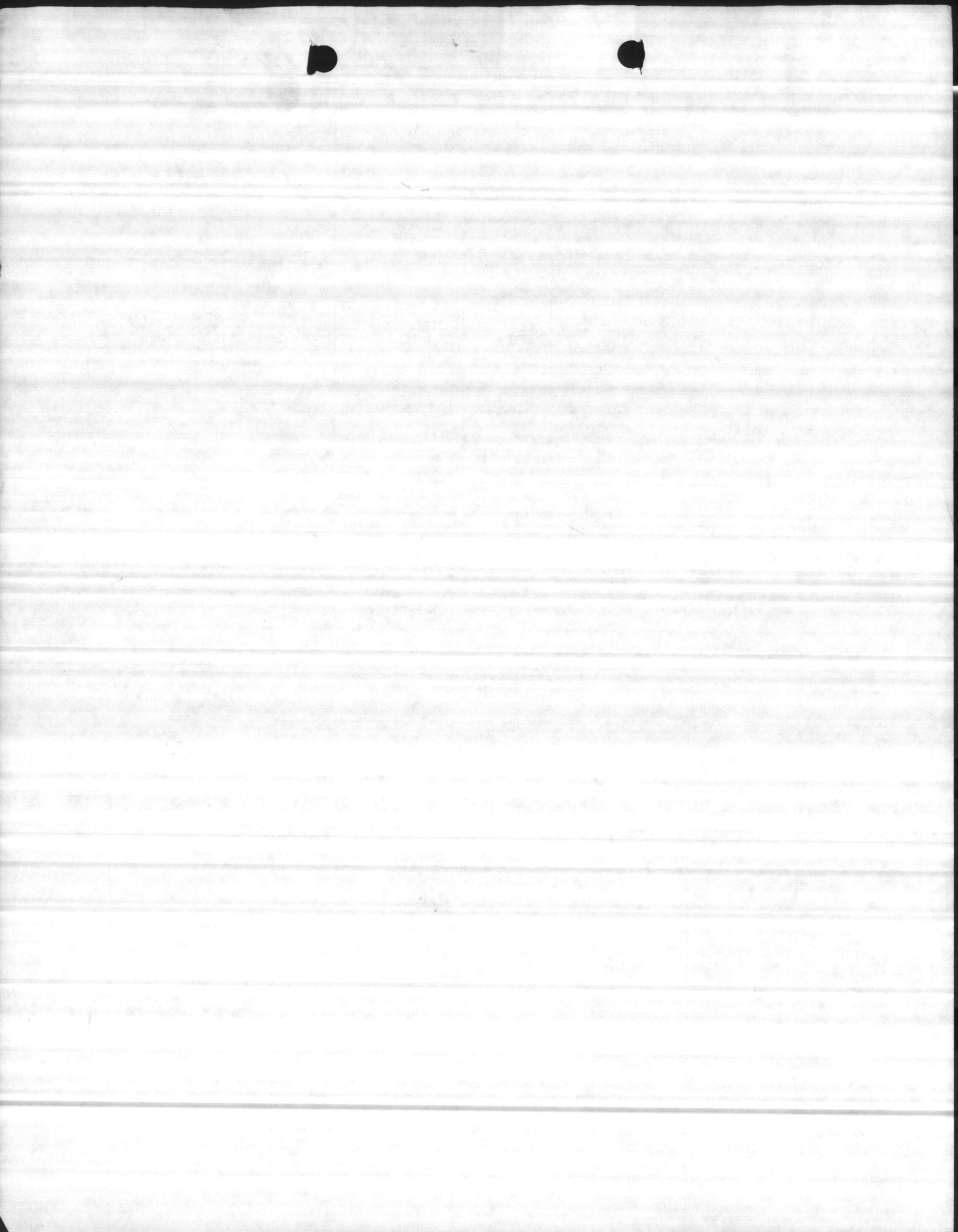
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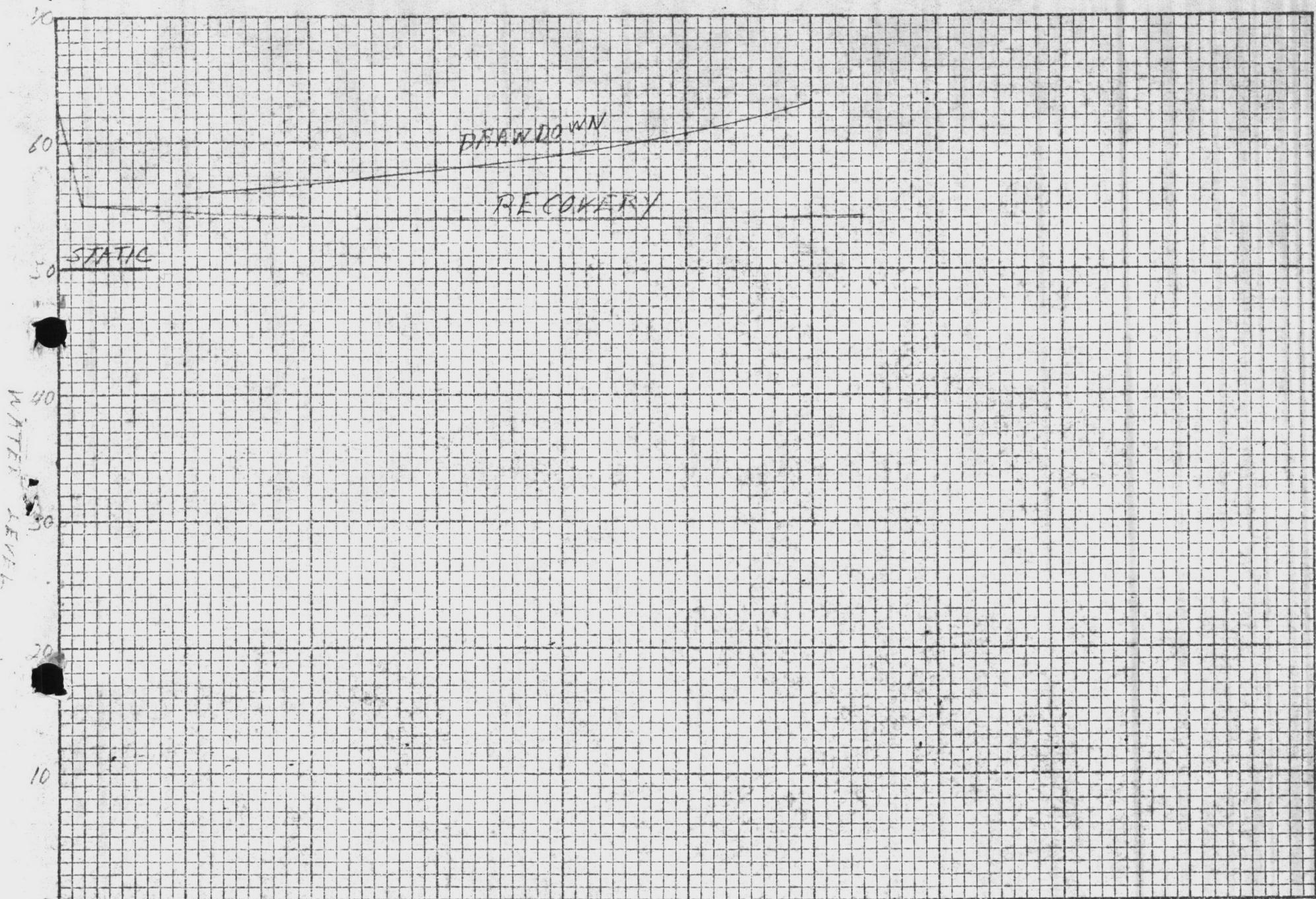
WELL NUMBER RR 47		BY Thomas - Brown			DATE 12-13-84	
AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
70	54	59	5	25	104	1030
		60	6	22	119	1040
		61	7	19	130	1050
		63	9	16	151	1100
		64	10	14	167	1100

REMARKS

Sept net at 2.5 PSI 104 GPM

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE





WATER LEVEL

0 GPM 125 150 175 200 225 250 275  
 0 MINUTES 5 10 15 20 25 30 35

CAMP LEVEUNE  
 SPEC # 3885

WELL 5-1 47  
 RIFLE RANGE

DATA SHEETS

NO. 700-10

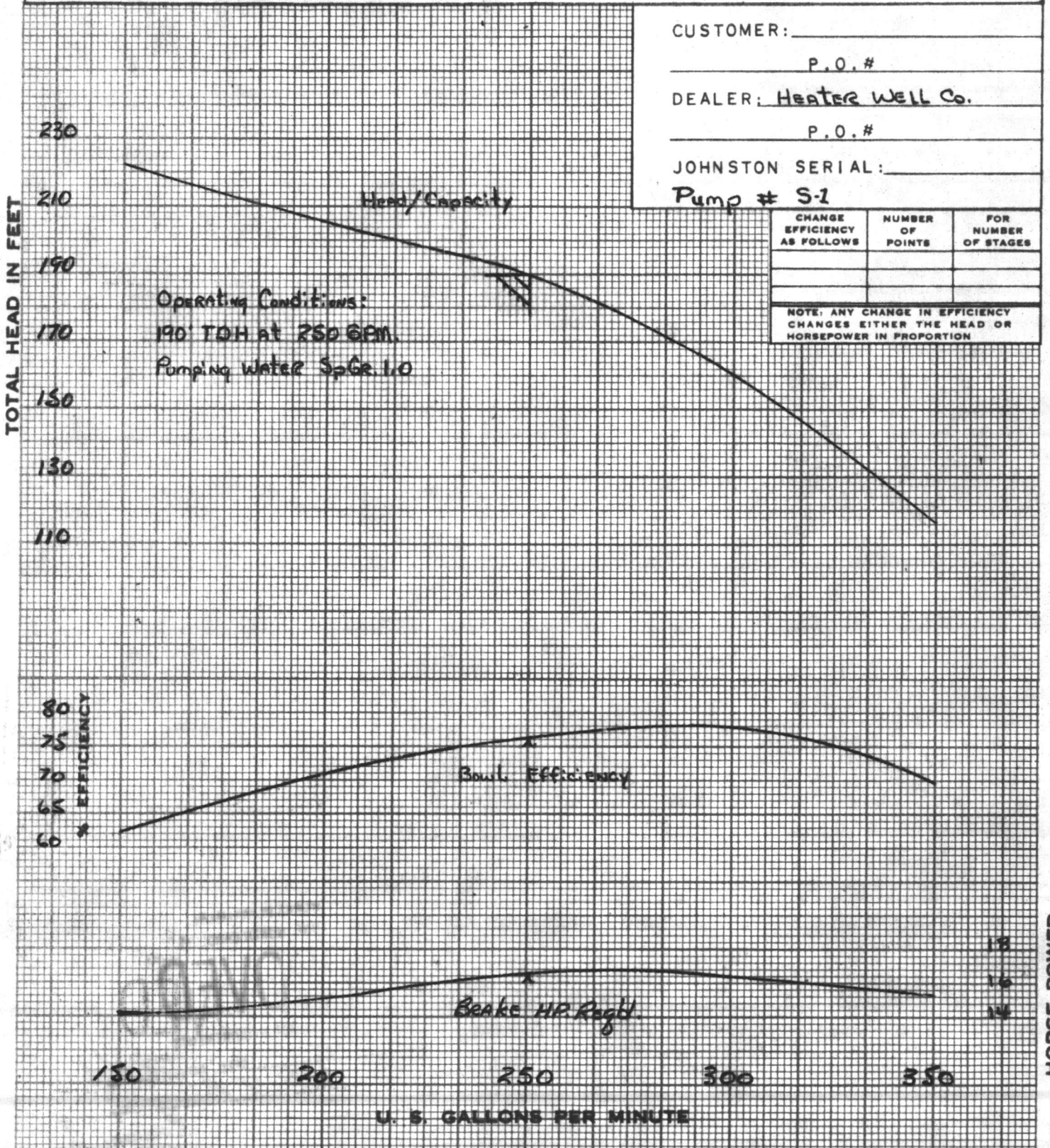
CHARLES BRUNING COMPANY, INC.  
 10 x 10 to the Inch.  
 PRINTED IN U. S. A.





HYDRAULIC PERFORMANCE IS CONTINGENT ON WELL FLOWING PUMP WITH CLEAR, FRESH NON-AERATED OR NON-GASEOUS WATER FREE FROM DETRITUS WITH NO SUCTION LIFT AND TEMPERATURE NOT TO EXCEED 88 DEGREES FAHRENHEIT

NOTE: ALL COLUMN LOSSES ARE INCLUDED



CUSTOMER: \_\_\_\_\_

P.O.# \_\_\_\_\_

DEALER: Heater Well Co.

P.O.# \_\_\_\_\_

JOHNSTON SERIAL: \_\_\_\_\_

Pump # S-1

CHANGE EFFICIENCY AS FOLLOWS	NUMBER OF POINTS	FOR NUMBER OF STAGES

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

HORSE POWER

IMPELLER 6 1/4"  
Brz. DIA.  
 DATE: 3-18-57 BY: JDM

JOHNSTON PUMP CO.



**VERTICAL PUMPS**

PASADENA • CALIFORNIA • USA

PERFORMANCE 7 STAGE

850

DEEP WELL TURBINE PUMP

1800

R. P. M.

CURVE SHEET No. \_\_\_\_\_

PUBLIC WORKS DEPARTMENT  
CAMP LEJEUNE, NORTH CAROLINA

**APPROVED**

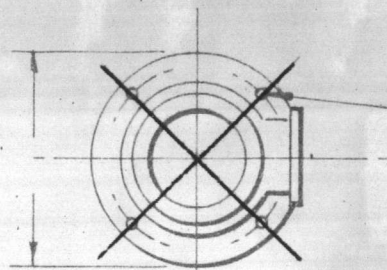
SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT NO. 3815 SPEC. NO. 3815/56

TITLE Repairs to Well Pump

DATE: 3-27-57 W. F. Evans, Jr.  
BY DIRECTION OF OFFICER  
IN CHARGE OF CONSTRUCTION MS

# JOHNSTON VERTICAL TURBINE PUMP

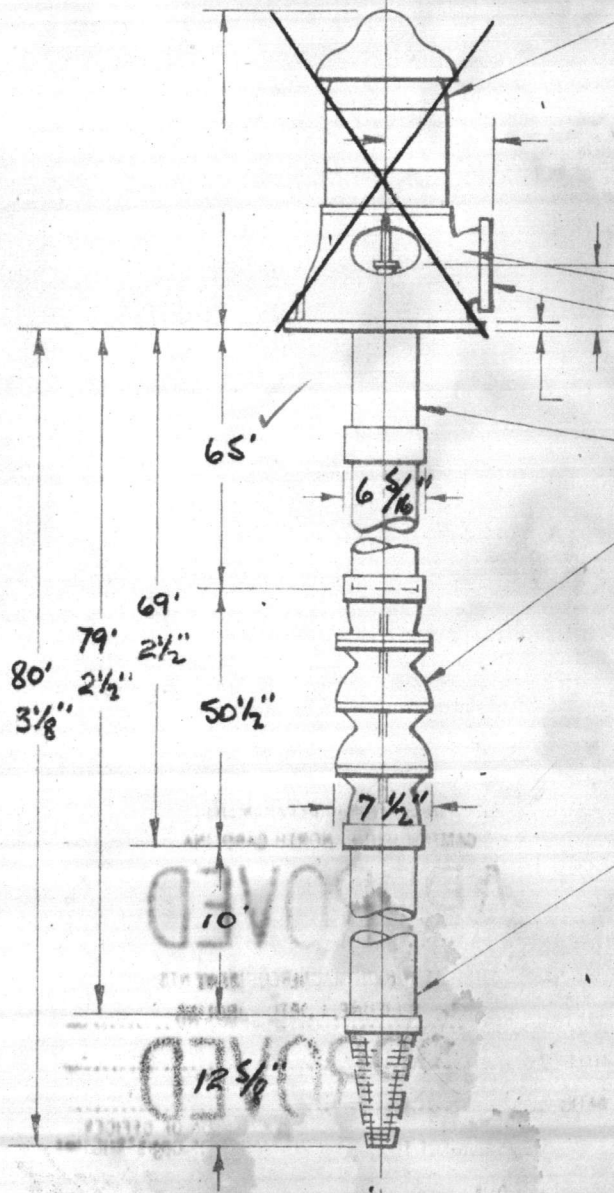


4- DIA. HOLES

Furnished By Others  
 VERTICAL HOLLOW SHAFT MOTOR

HP	PHASE	CYCLE
	VOLT	RPM
		ENCLOSURE

Furnished By Others  
 TYPE "A" DISCHARGE HEAD  
 " X 125# FLANGE



5" x 2" x 1 3/16" GWI COLUMN ASSEMBLY  
 7 STAGE 8 BC BOWL ASSEMBLY

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

5" SUCTION PIPE 5" CONE STRAINER

CUSTOMER \_\_\_\_\_  
 PC# \_\_\_\_\_  
 DEALER HEATER WELL Co.  
 PG# \_\_\_\_\_  
 JOHNSTON SERIAL # \_\_\_\_\_  
 JOHNSTON QUOTATION # \_\_\_\_\_

NOTE: DO NOT USE FOR CONSTRUCTION  
 UNLESS CERTIFIED

Pump # S-1

PUBLIC WORKS DEPARTMENT  
CAMP LEJEUNE, NORTH CAROLINA

**APPROVED**

SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT NO. 2125 SPEC. NO. 385

TITLE Repairs to Hill Camp

DATE: 3-27-54

BY DIRECTION OF OFFICER  
IN CHARGE OF CONSTRUCTION

WELL # S-1

PLACE - Rifle Range

DATE - 21 Feb 1957

ORIGINAL WELL CAPACITY G.P.M. 250

ORIGINAL WELL		TESTING	
Depth of Well	84.8	Depth after Cleaning	83.8
Pump Size		Test Pump Setting	70
Pump Setting	65	Measured Static Water Level	50' 4"
Static Water Level	45.3	Depth of Air Line	70

Static on gauge 50' 0"

CONDITION OF WELL - Cleaned 2'-0" of sand & muck out of well.

STATIC LEVEL ON GAUGE

Inches of water in dizometer tube	G.P.M.	30 Min.	45 Min.	60 Min.	1 Hour
	125	PL	PL	PL	PL 56
	150	PL	PL	PL	PL 56.5
	175	PL	PL	PL	PL 58
	200	PL	PL	PL	PL 59
	225	PL	PL	PL	PL 60.5
	250	PL	PL	PL	PL 63.
	275	PL	PL	PL	PL
		PL	PL	PL	PL
		PL	PL	PL	PL
		PL	PL	PL	PL
		PL	PL	PL	PL

RECOVERY

10 Sec.		61
20	PL	60
30	PL	58
40	PL	56
50	PL	55.5
60	PL	55
2 Min.	PL	55
4	PL	55
8	PL	54
16	PL	54
32	PL	54



WELL + PUMP RR. 47. 3.24-65

NEW JOHNSTON + ELL. MOTOR. BY HARTSFIELD.

MEASURED - PUMP BASE TO WATER 47'6".

AIR LINE NEW -

PUMP SETTING

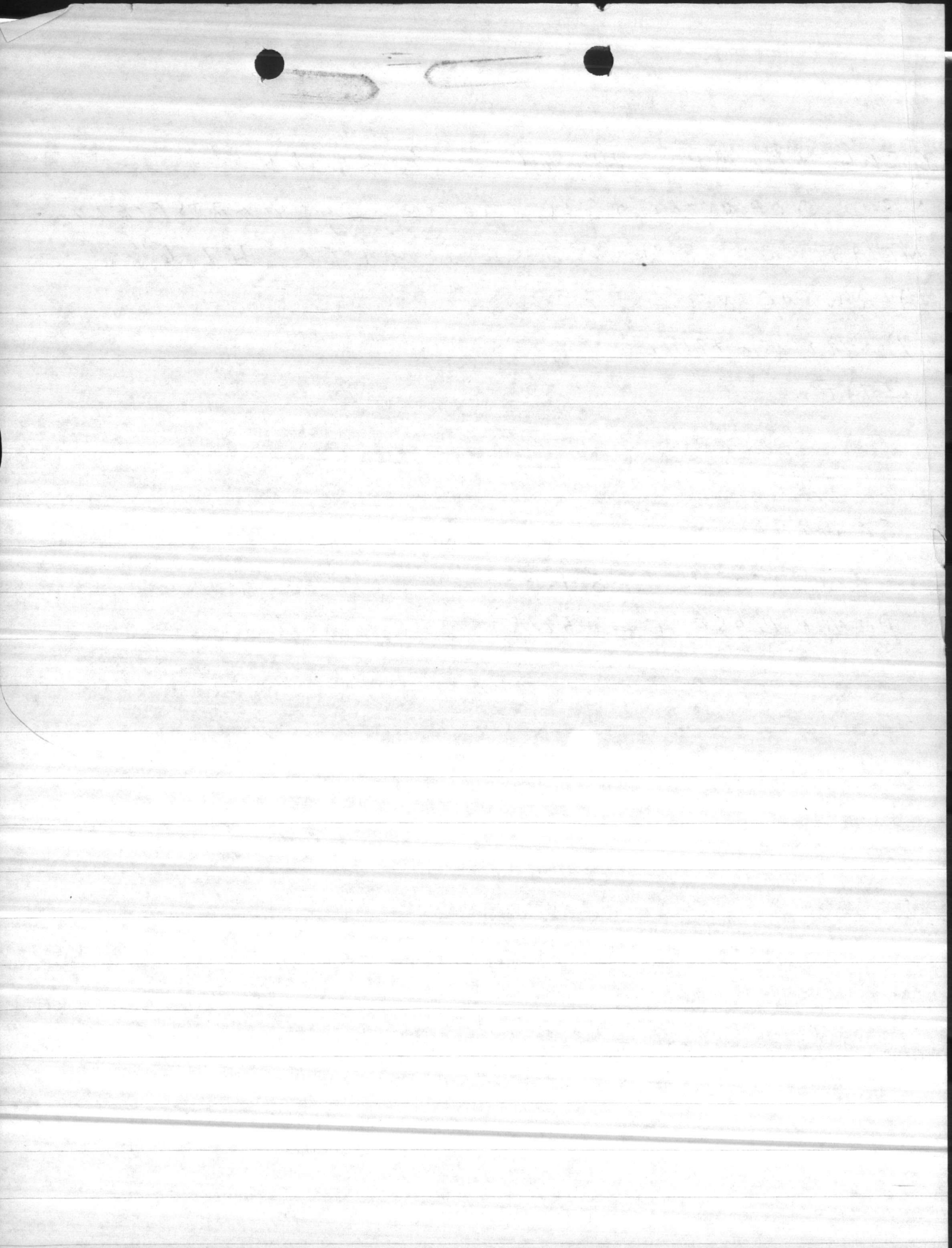
O.P.

STATIC +3' 6.11.57

WELL DEPTH. 84.8'

PUMP BASE EL +51.8'





WATER ANALYSIS

BY \_\_\_\_\_

DATE 8-3-44

Sample from WELL S-1

Total Solids \_\_\_\_\_ PPM      Dissolved Solids \_\_\_\_\_ PPM

Suspended Solids \_\_\_\_\_ PPM      Volatile Solids \_\_\_\_\_ PPM

Phenol. Alk. as CaCO<sub>3</sub> 0 PPM      Silica as SiO<sub>2</sub> \_\_\_\_\_ PPM

Total Alk. " " 172 "      Ferrous Iron as Fe \_\_\_\_\_ "

Bicarbonates " " \_\_\_\_\_ "      Aluminum as Al. \_\_\_\_\_ "

CARBONATES " " \_\_\_\_\_ "      Total Iron as Fe 4.0 "

Chlorides as Cl. 12 "      Calcium as Ca. \_\_\_\_\_ "

Sulphates as SO<sub>4</sub> \_\_\_\_\_ "      Magnesium as Mg. \_\_\_\_\_ "

Nitrites as NO<sub>2</sub> \_\_\_\_\_ "      Sodium as Na. \_\_\_\_\_ "

CARBON DIOXIDE AS CO<sub>2</sub> \_\_\_\_\_ "

pH 7.3 Soap Hardness as CaCO<sub>3</sub> 176 PPM

Odor very slight H<sub>2</sub>S Turbidity \_\_\_\_\_

Remarks \_\_\_\_\_



MEMORANDUM FOR THE RECORD

DATE: 10/10/54

TO: SAC, NEW YORK

FROM: SAC, NEW YORK

SUBJECT: [Illegible]

RE: [Illegible]

[Illegible]

[Illegible]

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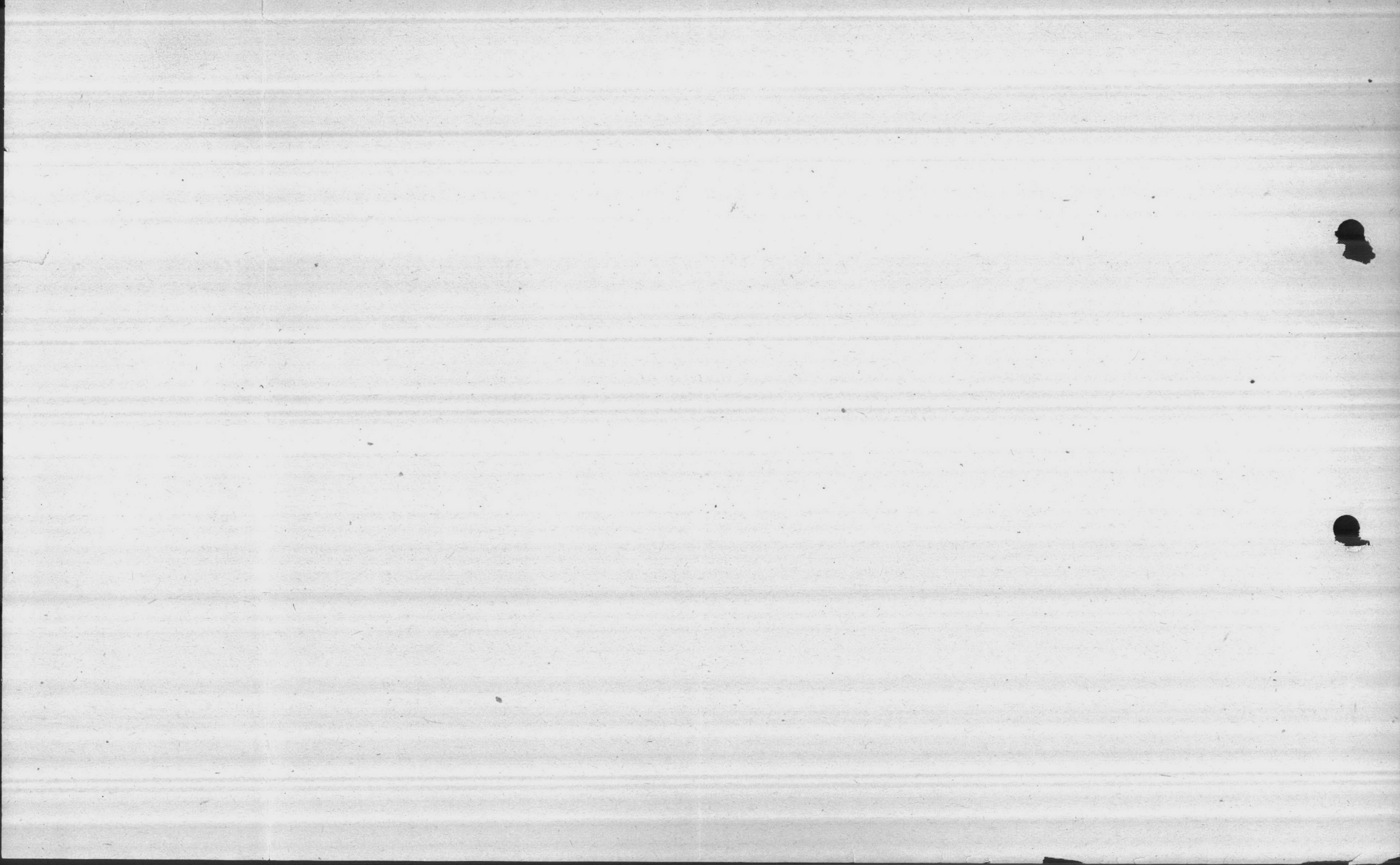
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WELL "S-1" - RIFLE RANGE

29 September, 1944

Elev. pump base 51.8

Elev. ground 49.8

Static water level + 5.3

Draw down

\_\_\_ G.P.M. against \_\_\_ ft. head

Air line 71' Elev. D.D. gauge +51.8

Shut-off head - 261'

200 G.P.M. 70 lbs. pressure D.D. 57' to Elev. - 5.2 T.H. 218'

225 G.P.M. 65 lbs. pressure D.D. 58' to Elev. - 6.2 T.H. 207'

240 G.P.M. 60 lbs. pressure D.D. 59' to Elev. - 7.2 T.H. 197'

255 G.P.M. 55 lbs. pressure D.D. 60' to Elev. - 8.2 T.H. 186'

Recovers to Elev. -1.2 inst.

WATER LEVELS - "A" - 1941

1941, continued

21.8	High water level
40.8	Low water level
31.2	Static water level
	from down

Water level at ...

Water level at ...

Water level at ...

20.0	Water level at ...
19.5	Water level at ...
19.0	Water level at ...
18.5	Water level at ...

Water level at ...

Well # 47-RR

Date	Line Ft.	G.P.M.	D.D. El. FT	Static El. FT	Shut off Head FT	D.D. Ft.	LINE Press
6-1-53	125	260	-7.2	+1.2	208	8.4	
"	138	230	-6.2	-	-	7.4	
"	92.5	290	-9.2	-	-	10.4	
new Pump by Hester - Johnston Pump.							
4/15/63	117	246	52.6	52.6		11ft	52.6

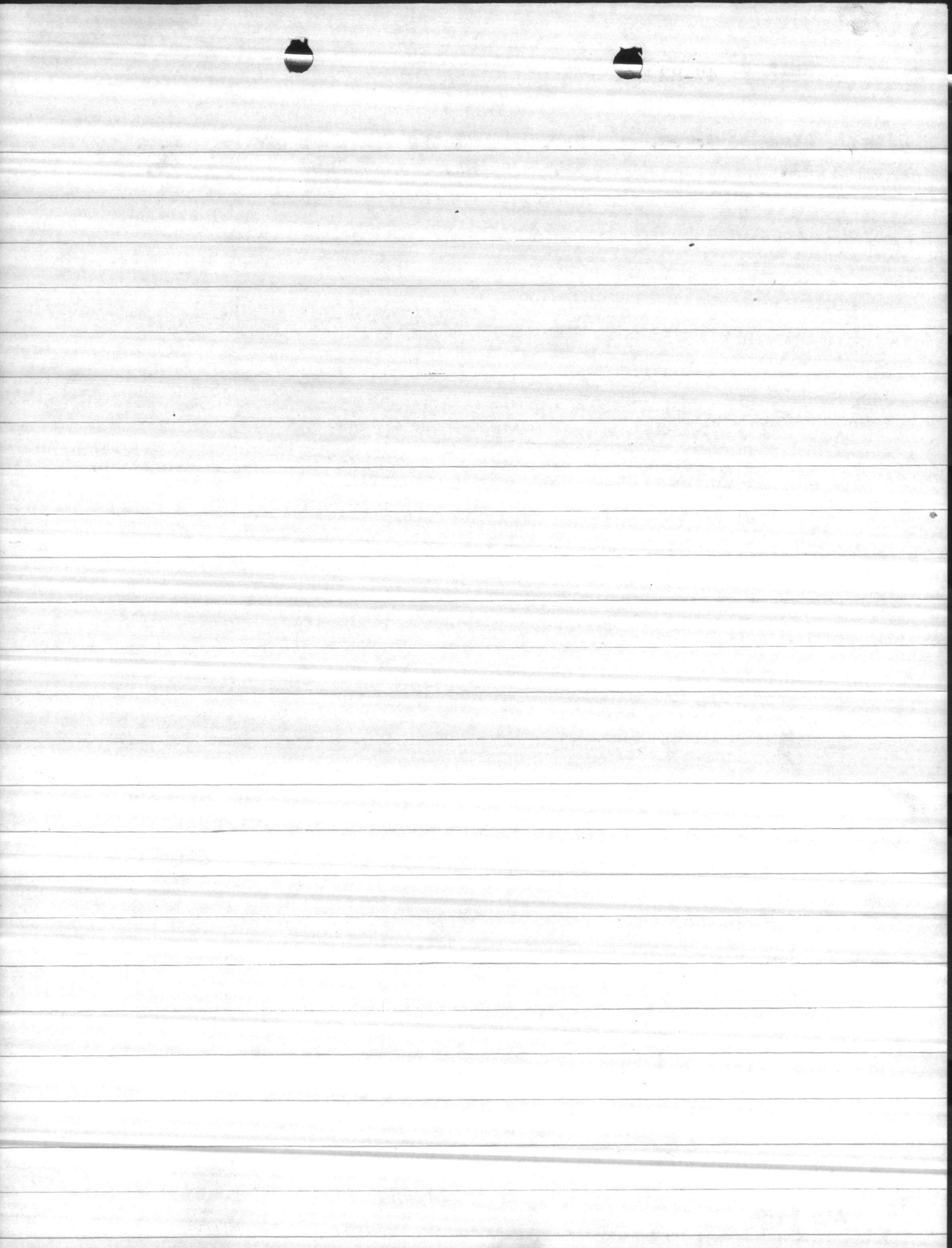
Air Line

65  
~~71.5~~

LOWER EL. - ~~19.2~~

new Pump Johnston





#47, P. BASE. EL. 51.8'

CAP'S

#45 - 140 GPM.

#45 + 227 - 335 GPM

#45 + 47 = 370 GPM

#227 - 200 GPM

#47 - 250 - " "

# 45 RR.

NEW JOHNSTON PUMP  
INSTALLED. 3-15-65

CAP —

AIR LINE NEW. 86' 3"

MEASURED FROM PUMP BASE  
TO WATER 50'

PUMP BASE. EL + 56.7'

---

# RR-227. PUMP BASE EL + 34'

NEW J. PUMP.

INSTALLED —

CAP —

AIR LINE 51.5' NEW.

MEASURED TO WATER FROM  
PUMP BASE. 29'

DISCHARGE PRESS. 26 LB.

STATIC READING. 16'

GAUGE READING.