

**CONTRACTOR'S SUBMITTAL TRANSMITTAL**

ND LANTDIV 4-4355/3 (Rev. 6/76)

**FIELD: Booth**

FROM CONTRACTOR  
**EAST COAST CONSTRUCTION CO., INC.**

TO  
**Commander, NAV FAC**

CONTRACT NO. <b>76-C-6800</b>	TRANSMITTAL NO. <b>5</b>	DATE <b>2-13-78</b>
PROJECT TITLE AND LOCATION <b>EAST COAST CONSTRUCTION CO., INC. CONTRACT N62470-76-C-6800 REPLACE WATER WELLS</b>		

**CONTRACTOR USE ONLY**

\*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

- Contractor Approved     
  OICC Approval     
  Deviation/Substitution For OICC Approval

**MARINE CORPS BASE REVIEWER USE ONLY**  
**CAMP LEJUENE, NC**

- \*\*ACTION CODES**  
 A-Approved  
 D-Disapproved  
 AN-Approved as noted  
 RA-Receipt acknowledged.  
 C-Comments  
 R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
1	15201-5.2	Stainless Steel Well Screens	7	A	CCS 405 2/21/78
2	15201-5.3	Gravel Analysis	7	AN	CCS 405 2/21/78

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER: **16 February 1978**     
 FROM (Reviewer): **LANTDIV**     
 TO: **East Coast Construction Co., Inc.**

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

REVIEWER'S COMMENTS

*(1) Don't use gravel size smaller than screen opening*

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE <b>2/25/78</b>	SIGNATURE <i>[Signature]</i>
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COMMUNIQUE, NAVFAC

JF-C-10800 B

FORM 3, COPY 1

112501-213  
112501-215

Travel Analysis  
Stamps Steel Mill Service

7 AM 1000-1100  
A 7

<input type="checkbox"/> PROPOSED	DATE	BY	REASON
<input checked="" type="checkbox"/> PROPOSED			
<input type="checkbox"/> NOT PROPOSED			



# Mustang Monometal

## Rod-base stainless steel well screens that can take it.

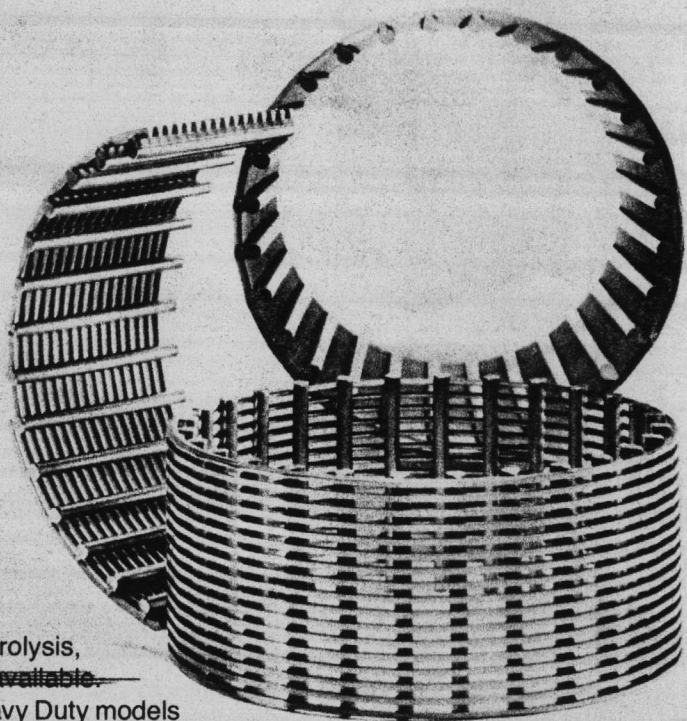
When the time required to develop a well demands the non-restrictive design of a rod-base screen, turn to Mustang Monometal. The superiority of a Mustang Monometal starts with the size, shape and number of longitudinal rods.

The teardrop-shaped rod minimizes flow resistance while maintaining high collapse strength. In our heavy duty model, rod size is larger than standard screens, and the number of rods is greater.

All Monometal screens feature Keystone "V" shaped wrap wire for greater flow capacity. Consistent slot accuracy is maintained by machine controlled spacing, with fusion welding under water at each rod crossing.

Type-304 Stainless Steel gives maximum resistance to electrolysis, incrustation, corrosion and galvanic actions. ~~Type-316 is also available.~~ Mustang Monometal may be ordered in either Standard or Heavy Duty models in diameters through 12 inches and lengths through 20 feet. Slot sizes range from .001 inch upward.

To get the best rod-base screen you can buy, specify Mustang Monometal.



# Mustang Pipe-Base Screens

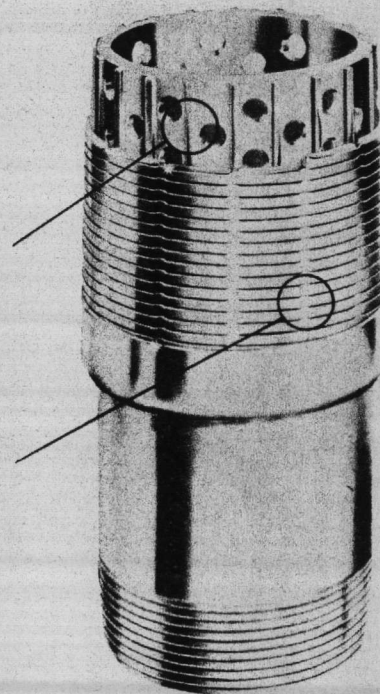
## Rugged, precision screens combining high strength, large inlet area, low fluid velocity and effective sand control for even extreme conditions.

When well conditions require a pipe base screen that can take abuse and still deliver, Mustang has it. No other screen can give you a better combination of strength, capacity and trouble free screening.

Mustang Pipe-Base screens feature Keystone "V" shaped stainless steel wrap wire to reduce flow friction. Precision spacing lugs control accuracy of the slot opening. Mustang Pipe Base Screens can be driven without splitting or deforming, and they stand washing in at even the highest of mud pump pressures.

And when you specify Mustang Pipe Base, you know you're getting the very best in engineering, materials and craftsmanship that can be found. Diameters through 14 inches and lengths through 45 feet are available in all slot sizes.

See your Mustang catalog for full specifications and engineering data or write directly to Mustang.



EAST COAST CONSTRUCTION CO., INC.  
CONTRACT N62470-76-C-6800  
REPLACE WATER WELLS  
MARINE CORPS BASE  
CAMP LEJUENE, NC



**Well Supply Corp.**

Plant: 5125 Glenmont, Houston, Texas 77036 Mail: P. O. Box 104,  
Bellaire, Texas 77401 Phone (713) 667-9484

ATLANTIC DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK, VIRGINIA 23511

APPROVED ..... ✓ .....  
APPROVED AS NOTED .....  
DISAPPROVED .....

SUBJECT TO THE REQUIREMENTS OF  
CONTRACT **05-76-6800**

APPROVAL OF THIS SUBMITTAL DOES NOT INCLUDE  
APPROVAL OF ANY DEVIATION FROM THE CON-  
TRACT REQUIREMENTS UNLESS THE CONTRACTOR  
DRAWS ATTENTION TO AND SUPPORTS THE DEVA-  
TION--- THE CONTRACTOR SHALL BE RESPONS-  
IBLE FOR PROVIDING FOR PHYSICAL DIMEN-  
SIONS & TOLERANCES, COORDINATION OF TRADES,  
ETC., AS REQUIRED.

REVIEWER CCS DATE **21 FEB 1978**

FOR OFFICER IN CHARGE OF CONSTRUCTION

# Engineering data

## PIPE SIZE\*

NOMINAL SCREEN SIZE (INCHES)	OUTSIDE DIAMETER (INCHES)	CLEAR OPENING THROUGH FITTINGS (INCHES)	Total Slot Area per Ft. of Screen for Various Gauges (Sq. In. per Ft.)										
			.008	.010	.015	.020	.030	.040	.050	.080	.100	.125	.150
1-1/4	1-3/4	1-1/4	7.36	8.94	12.52	15.65	20.86	25.03	28.45	—	—	—	—
1-1/2	2-1/8	1-1/2	8.43	10.23	14.33	17.91	23.88	28.65	32.56	—	—	—	—
2	2-5/8	2	11.62	14.11	19.75	24.69	32.92	39.51	44.90	56.44	—	—	—
2-1/2	3	2-1/2	12.73	15.46	21.64	27.05	36.06	43.28	49.18	61.83	—	—	—
3	3-5/8	3	15.53	18.85	26.39	32.99	43.98	52.78	59.98	75.40	82.48	—	—
4	4-5/8	4	19.96	24.23	33.93	42.41	56.55	67.86	77.11	96.94	106.04	114.64	—
6	6-5/8	6	20.37	24.96	35.65	45.38	62.39	76.79	89.13	117.44	131.35	145.10	156.00
8	8-5/8	8	26.52	32.50	46.42	59.08	81.24	99.99	116.06	152.92	171.03	188.93	203.13
10	10-3/4	10	25.72	31.63	45.77	58.73	82.22	102.47	120.69	163.62	185.90	208.18	226.81
12	12-3/4	12	30.51	37.52	54.29	69.66	97.52	121.55	143.16	194.09	220.51	212.35	233.96
14	14	13-1/8	33.50	41.20	59.61	76.48	107.09	133.46	167.11	177.25	204.68	233.16	256.90
16	16	15	29.06	36.87	52.27	67.52	96.46	121.78	144.69	202.57	276.72	221.86	247.78
18	18	16-3/4	32.89	40.36	58.80	75.96	108.52	137.00	128.19	183.80	215.68	249.59	278.76
20	20	18-3/4	27.06	33.48	49.14	64.13	91.94	118.32	142.43	204.23	239.64	277.32	309.73

## TELESCOPE SIZE\*

NOMINAL SCREEN SIZE (INCHES)	OUTSIDE DIAMETER (INCHES)	CLEAR OPENING THROUGH FITTINGS (INCHES)	Total Slot Area per Ft. of Screen for Various Gauges (Sq. In. per Ft.)										
			.008	.010	.015	.020	.030	.040	.050	.080	.100	.125	.150
2-3/4	3-3/4	2-3/4	12.20	14.81	20.73	25.92	34.56	41.46	47.12	59.24	—	—	—
3-1/2	4-1/4	3-1/2	14.41	17.50	24.50	30.83	40.84	49.01	55.69	70.01	76.69	—	—
4	4-3/4	4	16.63	20.19	28.27	35.34	47.12	56.55	64.26	80.78	88.37	95.53	—
4-1/2	5-1/4	4-1/2	18.86	22.89	32.04	40.06	53.41	64.09	72.83	91.55	100.15	108.27	—
5	5-3/4	5	21.07	25.68	35.81	44.77	59.69	71.63	81.39	103.33	111.93	121.01	127.92
6	6-5/8	6	24.92	30.27	42.37	52.97	70.62	84.75	96.30	121.07	132.43	143.17	151.35
8	8-1/2	8	26.52	32.50	46.42	59.08	81.24	99.99	116.06	133.05	148.81	164.38	176.74
10	10-1/2	10	29.23	36.81	51.18	65.12	89.54	110.20	127.91	168.54	188.49	208.22	223.87
12	12-1/4	10-3/8	26.92	33.11	47.90	61.47	86.05	107.25	126.32	171.26	194.57	217.88	237.38
14	14-1/2	11-5/8	29.91	36.78	53.22	68.30	95.61	119.16	140.36	190.28	216.19	208.18	229.38
16	16-1/4	13-1/8	34.10	41.94	60.87	77.86	109.00	135.85	160.01	180.41	208.33	237.33	261.49
18	18-1/4	15	29.51	36.43	53.09	68.58	97.97	123.68	146.95	205.73	237.57	225.33	251.66
20	18-1/2	17	24.89	30.53	44.84	58.52	83.90	107.96	129.97	186.36	218.68	253.06	282.63

\*Based on standard specifications. Specifications subject to change without notice.

EAST COAST CONSTRUCTION CO., INC.  
 CONTRACT N62470-76-C-6800  
 REPLACE WATER WELLS  
 MARINE CORPS BASE  
 CAMP LEJUENE, NC



**Well Supply Corp.**

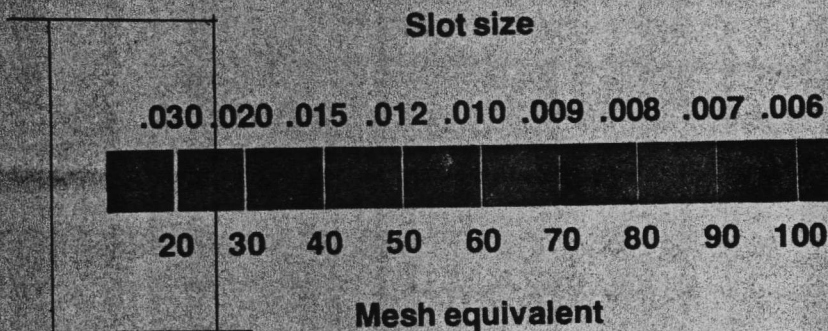
Plant: 5152 Glenmont, Houston, Texas 77036 Mail: P. O. Box 104,  
 Bellaire, Texas 77401 Phone (713) 667-9484



# Engineering data

## Dimensions\*

Nominal Screen Size (inches)	Outside Diameter (inches)	Clear Opening Through Fitting (inches)	Length of Screen (inches)	Nominal Screen Size (inches)	Outside Diameter (inches)	Clear Opening Through Fitting (inches)	Length of Screen (inches)
1 1/4	1 3/4	1 1/4	24	2	2 3/8	2	24
	1 3/4	1 1/4	30		2 3/8	2	30
	1 3/4	1 1/4	36		2 3/8	2	36
	1 3/4	1 1/4	42		2 3/8	2	42
	1 3/4	1 1/4	48		2 3/8	2	48
	1 3/4	1 1/4	54		2 3/8	2	54
	1 3/4	1 1/4	60		2 3/8	2	60



## Inlet Area\*

Nominal Screen Size (inches)	Total Slot Area Per Foot of Screen for Various Gauges (Sq. Inches per Foot)							
	.006	.008	.010	.015	.020	.030	.040	.050
1 1/4	5.69	7.36	8.94	12.52	15.65	20.86	25.03	28.45
2	8.16	10.55	12.82	17.94	22.43	29.91	35.89	40.78

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**Well Supply Corp.**

**EAST COAST CONSTRUCTION CO., INC.**  
**CONTRACT N62470-76-C-6800**  
**REPLACE WATER WELLS**  
**MARINE CORPS BASE**  
**CAMP LEJUENE, NC**

Plant: 5152 Glenmont, Houston, Texas 77036 Mail: P.O. Box 104,  
 Bellaire, Texas 77401 Phone (713) 667-9484

Handwritten marks or numbers in the top right corner.

Faint grid or table structure, possibly a ledger or data table, with multiple columns and rows.

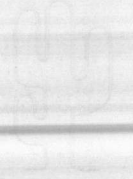
Small text or label centered on the page.

Small text or label centered on the page.

Faint grid or table structure, possibly a ledger or data table, with multiple columns and rows.

Faint text or label at the bottom left.

Faint text or label at the bottom left.



Faint text or label at the bottom center.

Faint text or label at the very bottom of the page.



Mailing Address:  
P. O. Box 3118  
St. Paul, Minn. 55165

# SAND ANALYSIS

Johnson Division  
Universal Oil Products Co.  
1950 Old Highway 8  
Saint Paul, Minnesota

919-281-3189

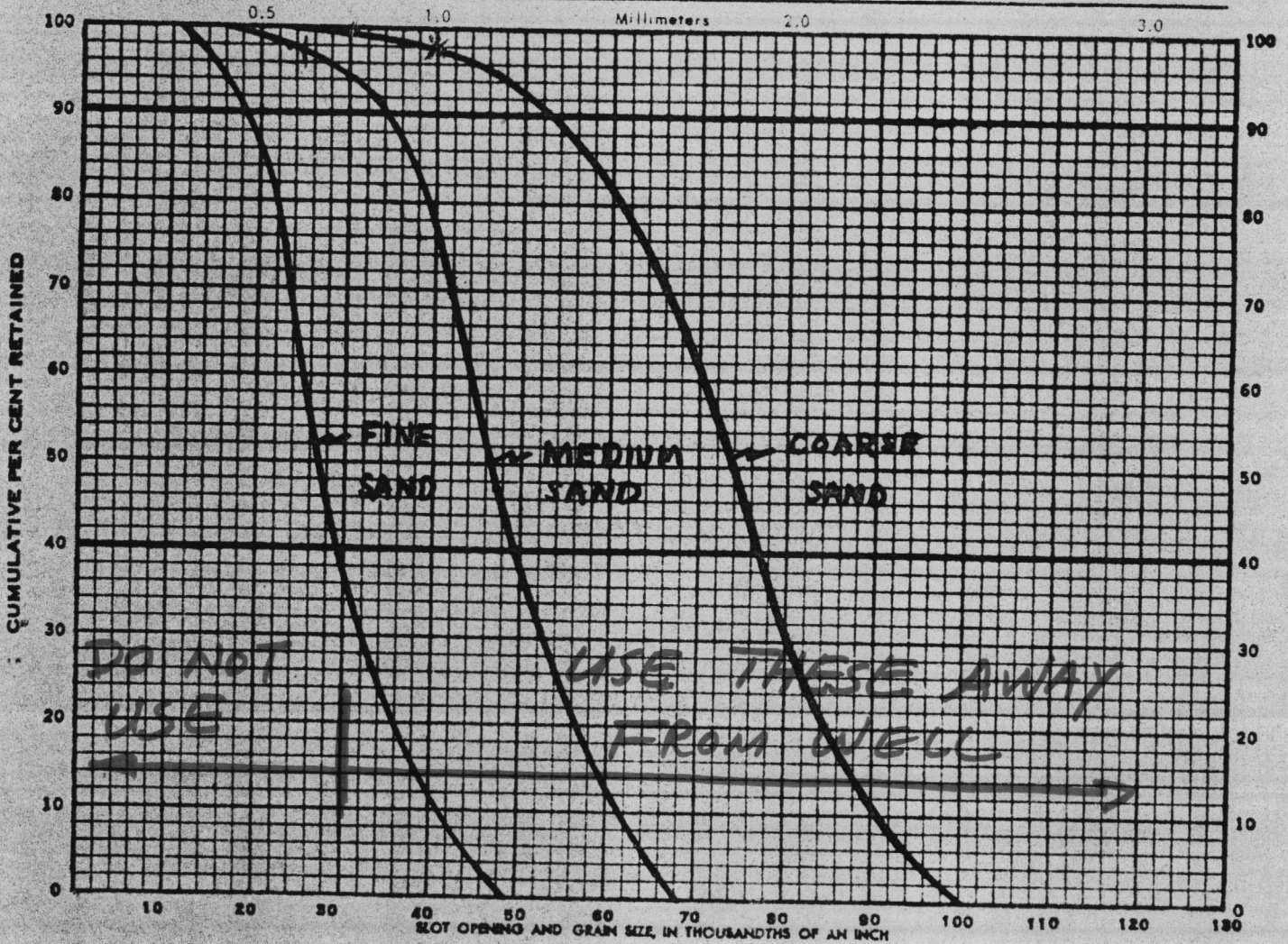
**EAST COAST CONSTRUCTION CO., INC.**  
CONTRACT N62470-76-C-6800  
REPLACE WATER WELLS  
MARINE CORPS BASE  
CAMP LEAVENE, NC

SOUTHERN PRODUCTS & SILICA COMPANY

Town LILESVILLE State NO. CAROLINA Date 10 MAY, 1971

From well of \_\_\_\_\_

Remarks Around August or September, moving operation to Hoffman, No. Carolina.  
and this material will be available at Hoffman, N.C.



SIEVE OPENINGS	CUMULATIVE PER CENT RETAINED			Sand	Permeability		Eff. size mm	U.C.	Price	
	FINE	MEDIUM	COARSE		Falling head gpd/ft <sup>2</sup>	Const. head			Bulk Ton	Bag 100 lb
.132										
.084			6							
.060			3	71						
.047	2	47	95	99						
.033	27	92								
.023	75	98					0.45	1.62	\$6.25	13.25
.018	94									
.012	99						0.85	1.45	\$6.25	13.25
.008										
.006							1.31	1.46	\$6.25	13.25

SO MANY CONSIDERATIONS ENTER INTO THE MAKING OF A GOOD WELL THAT, WHILE WE BELIEVE SLOT SIZES FURNISHED OR RECOMMENDED FROM SAND SAMPLES ARE CORRECT WE ASSUME NO RESPONSIBILITY FOR THE SUCCESSFUL OPERATION OF JOHNSON WELL SCREENS

ATLANTIC DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK, VIRGINIA 23511

APPROVED \_\_\_\_\_  
APPROVED AS NOTED \_\_\_\_\_ ✓  
DISAPPROVED \_\_\_\_\_

SUBJECT TO THE REQUIREMENTS OF  
CONTRACT NO. **05-76-6800**

APPROVAL OF THIS MATERIAL DOES NOT INCLUDE  
APPROVAL OF ANY DEVIATION FROM THE CON-  
TRACT REQUIREMENTS UNLESS THE CONTRACTOR  
CALLS ATTENTION TO AND SUPPORTS THE DEVI-  
ATION --- THE CONTRACTOR SHALL BE RESPONS-  
IBLE FOR PROVIDING PROPER PHYSICAL DIMEN-  
SIONS & DETAILS, COORDINATION OF TRADES,  
ETC., AS REQUIRED.

REVIEWER CCS DATE 21 FEB 1978

FOR OFFICER IN CHARGE OF CONSTRUCTION

Mailing Address:  
P. O. Box 3118  
St. Paul, Minn. 55165

# SAND ANALYSIS

Johnson Division  
Universal Oil Products Co.  
1950 Old Highway 8  
Saint Paul, Minnesota

EAST COAST CONSTRUCTION CO., INC.  
CONTRACT N62470-76-C-6800  
REPLACE WATER WELLS  
MARINE CORPS BASE  
CAMP LEJUENE, NC

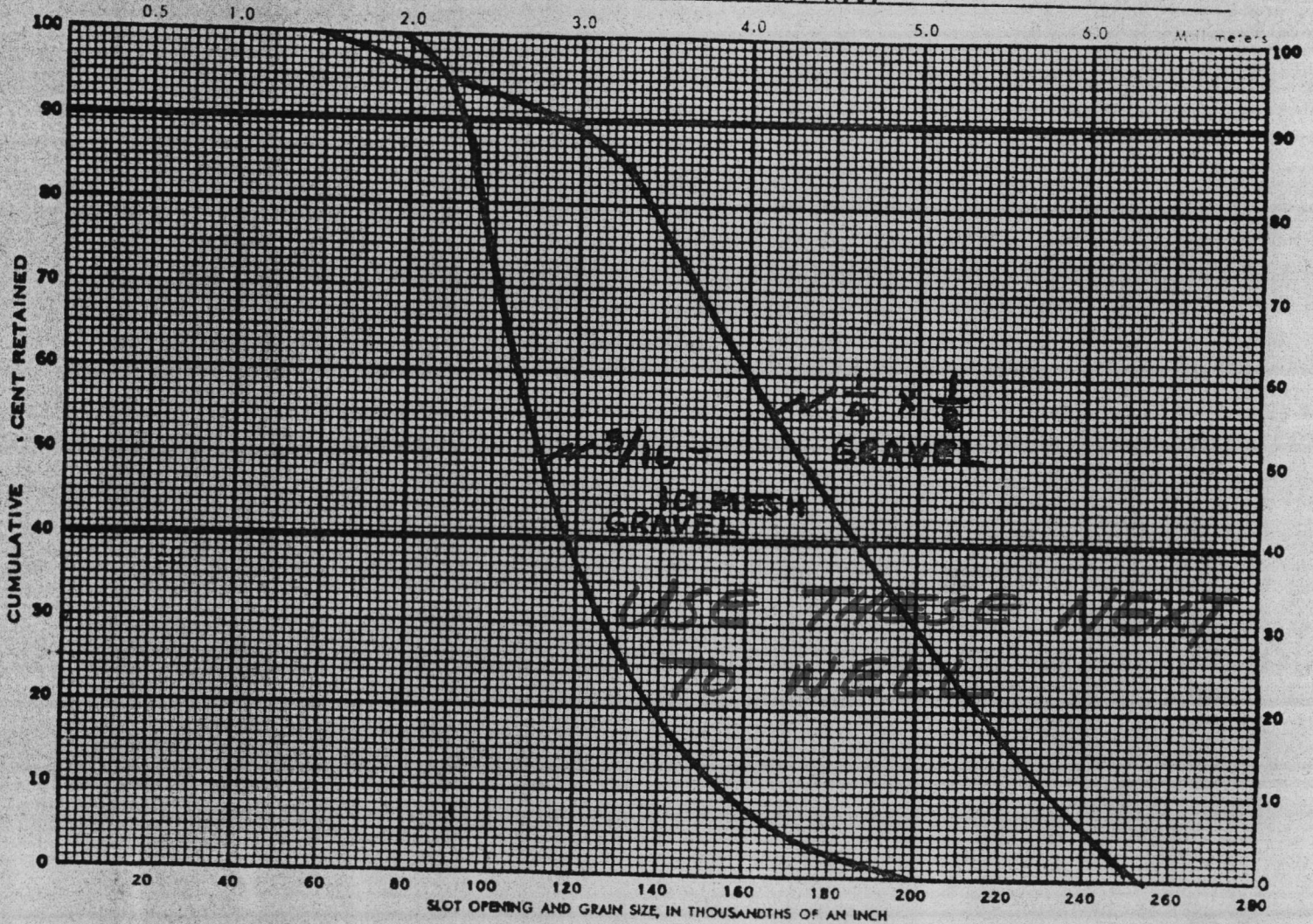
Sample sent in by SOUTHERN PRODUCTS & SILICA COMPANY

Town LILES VILLE

State No. Carolina Date 10 MAY, 1971

From well of \_\_\_\_\_

Remarks Around August or September, moving operation to Hoffman, No. Carolina.  
And this material will be available at Hoffman, N.C.



SIEVE OPENINGS	CUMULATIVE PER CENT RETAINED		Sand	Permeability		Eff. size mm	U.C.	Price FOB	
	3/16 - 10 MESH	1/4 x 1/8		Falling head	Const. head			Bulk	Bag
				gpd/ft <sup>2</sup>				Ton	100 lb
.250									
.187	1	39							
.132	25	84							
.094	88	94							
.066			3/16			2.33	1.26	\$8.00	15.00
.047			10 MESH						
.033									
.023			1/4 x 1/8			2.88	1.61	\$8.00	15.00

SO MANY CONSIDERATIONS ENTER INTO THE MAKING OF A GOOD WELL THAT, WHILE WE BELIEVE SLOT SIZES FURNISHED OR RECOMMENDED FROM SAND SAMPLES ARE CORRECT WE ASSUME NO RESPONSIBILITY FOR THE SUCCESSFUL OPERATION OF JOHNSON WELL SCREENS



**CONTRACTOR'S SUBMITTAL TRANSMITTAL**

5ND LANTDIV 4-4355/3 (Rev. 6/76)

**FIELD : Booth**

FROM CONTRACTOR

**EAST COAST CONSTRUCTION CO., INC.**

TO **Commander, NAVFAC**

CONTRACT NO.

**76-C-6799**

TRANSMITTAL NO.

**4**

DATE

**2-13-78**

PROJECT TITLE AND LOCATION

**EAST COAST CONSTRUCTION CO., INC.**

**CONTRACT N62470-76-C-6799  
REPLACE FOUR WATER WELLS**

**CONTRACTOR USE ONLY**

*\*List only one specification division per form.*

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Contractor Approved

OICC Approval

Deviation/Substitution For OICC Approval

**REVIEWER USE ONLY**

**\*\*ACTION CODES**

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
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ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
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2	15201-5.3	Gravel Analysis	7	AN	CCS 405 2/21/78

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

**16 Feb 1978**

FROM (Reviewer)

**LANTDIV**

TO

**East Coast Construction Co., Inc.**

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

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REVIEWER'S COMMENTS

*(1) Do not use gravel smaller than screen openings.*



COPIES TO:

- ROICC (2)
- LANTDIV (1)
- A-E (1)

DATE

**4/25/78**

SIGNATURE

*[Handwritten Signature]*

FIELD : BOUTH  
4  
5-13-58

COMMINGTON, NAVFAC

X

1/2501-215	STANLEY STANLEY	212702	212	AM	2
5/2501-213	CLAYTON	212	212	AM	2

*William H. ...*



# Mustang Monometal

## Rod-base stainless steel well screens that can take it.

When the time required to develop a well demands the non-restrictive design of a rod-base screen, turn to Mustang Monometal. The superiority of a Mustang Monometal starts with the size, shape and number of longitudinal rods.

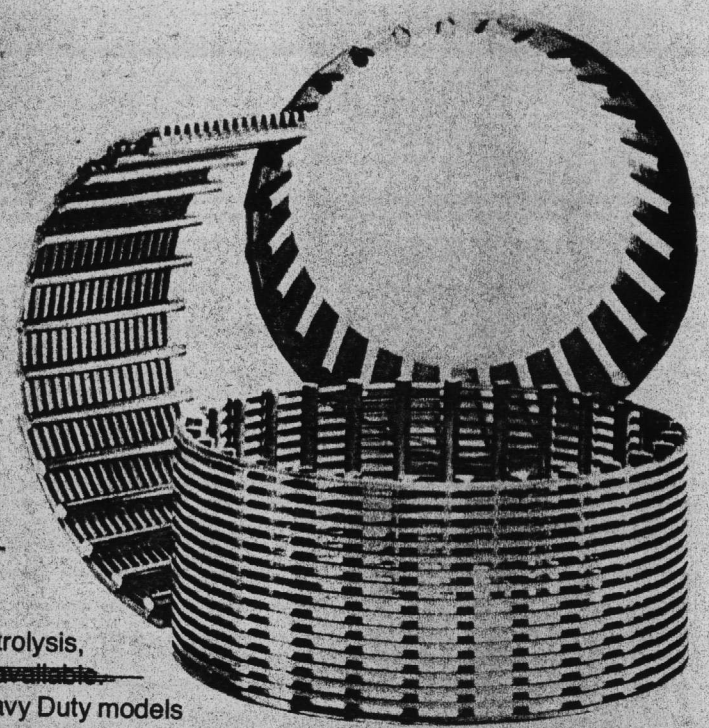
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# Mustang Pipe-Base Screens

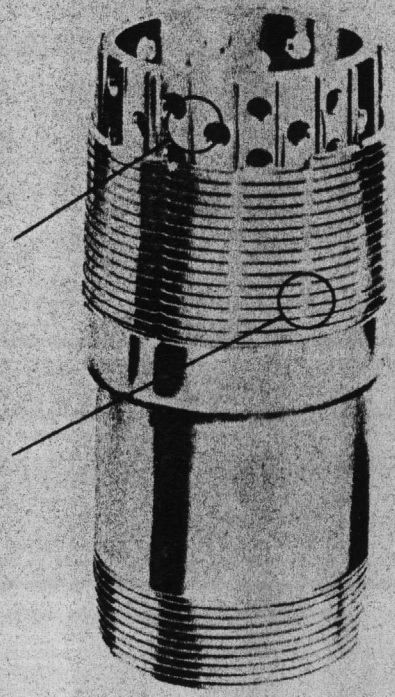
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## Well Supply Corp.

EAST COAST CONSTRUCTION CO., INC.  
CONTRACT N62470-76-D-6799  
REPLACE FOUR WATER WELLS  
MARINE CORPS BASE  
CAMP LEJUENE, NC

Plant: 5125 Glenmont, Houston, Texas 77036 Mail: P. O. Box 104,  
Bellaire, Texas 77401 Phone (713) 667-9484

ATLANTIC DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK, VIRGINIA 23511

APPROVED  \_\_\_\_\_  
APPROVED AS NOTED \_\_\_\_\_  
DISAPPROVED \_\_\_\_\_

SUBJECT TO THE REQUIREMENTS OF  
**05-76-0799**

CONTRACT NO. \_\_\_\_\_  
APPROVAL OF \_\_\_\_\_ INCLUDE  
APPROVAL OF \_\_\_\_\_ CON-  
TRACTOR \_\_\_\_\_  
CONTRACTOR SHALL BE RESPONS-  
IBLE FOR THE PHYSICAL DIMEN-  
SIONS OF TRADES,  
ETC., AS \_\_\_\_\_

REVIEWER CCS DATE **21 FEB 1978**

FOR OFFICER IN CHARGE OF CONSTRUCTION





# Engineering data

## PIPE SIZE\*

NOMINAL SCREEN SIZE (INCHES)	OUTSIDE DIAMETER (INCHES)	CLEAR OPENING THROUGH FITTINGS (INCHES)	Total Slot Area per Ft. of Screen for Various Gauges (Sq. In. per Ft.)										
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1-1/4	1-3/4	1-1/4	7.36	8.94	12.52	15.65	20.86	25.03	28.45	—	—	—	—
1-1/2	2-1/8	1-1/2	8.43	10.23	14.33	17.91	23.88	28.65	32.56	—	—	—	—
2	2-5/8	2	11.62	14.11	19.75	24.69	32.92	39.51	44.90	56.44	—	—	—
2-1/2	3	2-1/2	12.73	15.46	21.64	27.05	36.06	43.28	49.18	61.83	—	—	—
3	3-5/8	3	15.53	18.85	26.39	32.99	43.98	52.78	59.98	75.40	82.48	—	—
4	4-5/8	4	19.96	24.23	33.93	42.41	56.55	67.86	77.11	96.94	106.04	114.64	—
6	6-5/8	6	20.37	24.96	35.65	45.38	62.39	76.79	89.13	117.44	131.35	145.10	156.00
8	8-5/8	8	26.52	32.50	46.42	59.08	81.24	99.99	116.06	152.92	171.03	188.93	203.13
10	10-3/4	10	25.72	31.63	45.77	58.73	82.22	102.47	120.69	163.62	185.90	208.18	226.81
12	12-3/4	12	30.51	37.52	54.29	69.66	97.52	121.55	143.16	194.09	220.51	212.35	233.96
14	14	13-1/8	33.50	41.20	59.61	76.48	107.09	133.46	157.11	177.25	204.68	233.16	256.90
16	16	15	29.06	35.87	52.27	67.52	96.46	121.78	144.69	202.57	276.72	221.86	247.78
18	18	16-3/4	32.69	40.36	58.80	75.96	108.52	137.00	128.19	183.80	215.68	249.59	278.76
20	20	18-3/4	27.05	33.46	49.14	64.13	91.94	118.32	142.43	204.23	239.64	277.32	309.73

## TELESCOPE SIZE\*

NOMINAL SCREEN SIZE (INCHES)	OUTSIDE DIAMETER (INCHES)	CLEAR OPENING THROUGH FITTINGS (INCHES)	Total Slot Area per Ft. of Screen for Various Gauges (Sq. In. per Ft.)										
			.008	.010	.015	.020	.030	.040	.050	.080	.100	.125	.150
2 3	2-3/4	2	12.20	14.81	20.73	25.92	34.56	41.46	47.12	59.24	—	—	—
3-1/2	3-1/4	2-1/2	14.41	17.50	24.50	30.63	40.84	49.01	55.69	70.01	76.59	—	—
4	3-3/4	3	16.63	20.19	28.27	35.34	47.12	56.55	64.26	80.78	88.37	95.53	—
4-1/2	4-1/4	3-1/2	18.85	22.89	32.04	40.06	53.41	64.09	72.83	91.55	100.15	108.27	—
5	4-3/4	4	21.07	25.58	35.81	44.77	59.69	71.63	81.39	103.33	111.93	121.01	127.92
6	5-5/8	5	24.92	30.27	42.37	52.97	70.62	84.75	96.30	121.07	132.43	143.17	151.35
8	7-1/2	6	26.52	32.50	46.42	59.08	81.24	99.99	116.06	133.05	148.81	164.38	176.74
10	9-1/2	8	29.23	35.81	51.16	65.12	89.54	110.20	127.91	168.54	188.49	208.22	223.87
12	11-1/4	10-3/8	26.92	33.11	47.90	61.47	86.05	107.25	126.32	171.26	194.57	217.88	237.38
14	12-1/2	11-3/8	29.91	36.78	53.22	68.30	95.61	119.16	140.36	190.28	216.19	208.18	229.38
16	14-1/4	13-1/8	34.10	41.94	60.67	77.86	109.00	135.85	160.01	180.41	208.33	237.33	261.49
18	16-1/4	15	29.51	36.43	53.09	68.58	97.97	123.68	146.95	205.73	237.57	225.33	251.66
20	18-1/4	17	24.69	30.53	44.84	58.52	83.90	107.96	129.97	186.36	218.68	253.06	282.63

\*Based on standard specifications. Specifications subject to change without notice.

EAST COAST CONSTRUCTION CO., INC.  
 CONTRACT N62470-76-C-6799  
 REPLACE FOUR WATER WELLS  
 MARINE CORPS BASE  
 CAMP LEJUENE, NC



**Well Supply Corp.**

Plant: 5152 Glenmont, Houston, Texas 77036 Mail: P.O. Box 104,  
 Bellaire, Texas 77401 Phone (713) 667-9484



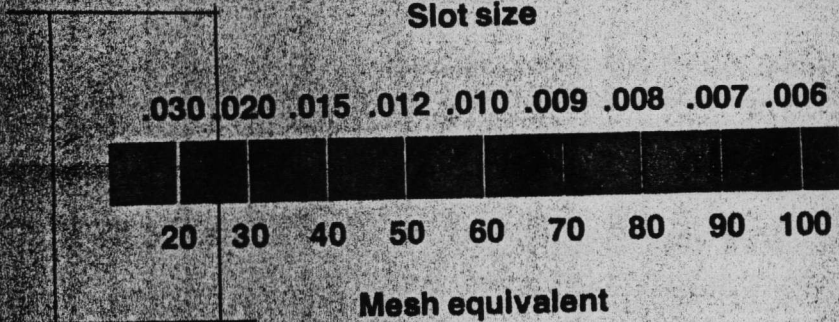
RECEIVED  
MARINE CORPS BASE  
CAMP LEJUNE N. C.

# Engineering data

## Dimensions\*

Nominal Screen Size (inches)	Outside Diameter (inches)	Clear Opening Through Fitting (inches)	Length of Screen (inches)	Nominal Screen Size (inches)	Outside Diameter (inches)	Clear Opening Through Fitting (inches)	Length of Screen (inches)
1 1/4	1 3/4	1 1/4	24	2	2 1/4	2	24
	1 3/4	1 1/4	30		2 3/8	2	30
	1 3/4	1 1/4	36		2 3/8	2	36
	1 3/4	1 1/4	42		2 3/8	2	42
	1 3/4	1 1/4	48		2 3/8	2	48
	1 3/4	1 1/4	54		2 3/8	2	54
	1 3/4	1 1/4	60		2 3/8	2	60
	1 3/4	1 1/4				2 3/8	2

## Slot size



## Mesh equivalent

## Inlet Area\*

Nominal Screen Size (inches)	Total Slot Area Per Foot of Screen for Various Gauges (Sq. Inches per Foot)							
	.006	.008	.010	.015	.020	.030	.040	.050
1 1/4	5.69	7.36	8.94	12.52	15.65	20.86	25.03	28.45
2	8.16	10.55	12.82	17.94	22.43	29.91	35.89	40.78

\*Based on standard specifications. Specifications subject to change without notice.

EAST COAST CONSTRUCTION CO., INC.  
 CONTRACT N62470-76-C-6799  
 REPLACE FOUR WATER WELLS  
 MARINE CORPS BASE  
 CAMP LEJUENE, NC



**Well Supply Corp.**

Plant: 5152 Glenmont, Houston, Texas 77036 Mail: P.O. Box 104,  
 Bellaire, Texas 77401 Phone (713) 667-9484

Faint markings or artifacts at the top of the page.



Mailing Address:

P. O. Box 3118

St. Paul, Minn. 55165

EAST COAST CONSTRUCTION CO., INC.

CONTRACT N62470-76-C-6799

REPLACE FOUR WATER WELLS

MARINE CORPS BASE

Sample from WELL, NC

Town LILESVILLE

From well of \_\_\_\_\_

Remarks Around August or September, moving operation to Hoffman, No. Carolina, and this material will be available at Hoffman, N.C.

# SAND ANALYSIS

Johnson Division

Universal Oil Products Co.

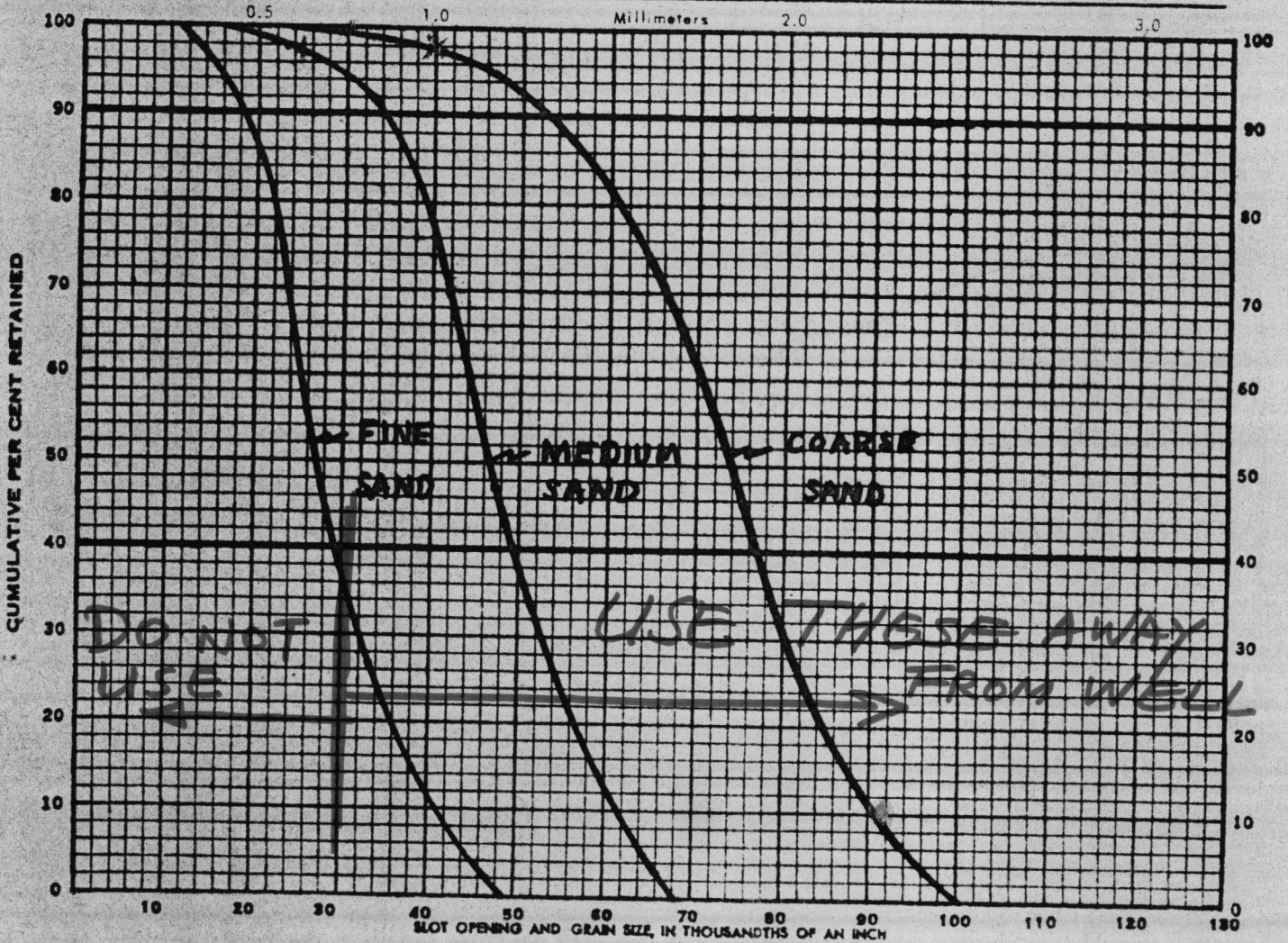
1950 Old Highway 8

Saint Paul, Minnesota

919-281-3189

SOUTHERN PRODUCTS & SILICA COMPANY

State NO. CAROLINA Date 10 MAY, 1971



SIEVE OPENINGS	CUMULATIVE PER CENT RETAINED			Sand	Permeability		Eff. size mm	U.C.	Price	
	FINE	MEDIUM	COARSE		Falling head gpd/ft <sup>2</sup>	Const. head			Bulk Ton	Bag 100 lb
.132			6							
.084			6							
.060			3							
.047	2	47	95							
.033	27	92	99	FINE			0.45	1.62	\$6.25	13.25
.023	75	98		MEDIUM			0.85	1.45	\$6.25	13.25
.018	94			COARSE			1.31	1.46	\$6.25	13.25
.012	99									
.008										
.006										

SO MANY CONSIDERATIONS ENTER INTO THE MAKING OF A GOOD WELL THAT, WHILE WE BELIEVE SLOT SIZES FURNISHED OR RECOMMENDED FROM SAND SAMPLES ARE CORRECT WE ASSUME NO RESPONSIBILITY FOR THE SUCCESSFUL OPERATION OF JOHNSON WELL SCREENS

ATLANTIC DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK, VIRGINIA 23511

APPROVED .....  
APPROVED AS NOTED ..... ✓ .....  
DISAPPROVED .....

SUBJECT TO THE REQUIREMENTS OF  
CONTRACT NO. **05-76-6799**  
APPROVAL OF A SUBSTITUTION DOES NOT INCLUDE  
APPROVAL OF ANY DEVIATION FROM THE CON-  
TRACT REQUIREMENTS UNLESS THE CONTRACTOR  
CALLS ATTENTION TO AND SUPPORTS THE DEVIATION.  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR  
CHECKING ALL PHYSICAL DIMENSIONS &  
COORDINATION OF TRADES,  
ETC., AS REQUIRED.

REVIEWER CCS DATE **21 FEB 1978**

FOR OFFICER IN CHARGE OF CONSTRUCTION



Mailing Address:  
P. O. Box 3118  
St. Paul, Minn. 55165

# SAND ANALYSIS

Johnson Division  
Universal Oil Products Co.  
1950 Old Highway 8  
Saint Paul, Minnesota

EAST COAST CONSTRUCTION CO., INC.  
CONTRACT N62470-76-C-6799  
REPLACE FOUR WATER WELLS  
MARINE CORPS BASE  
CAMP LEJUENE, NC

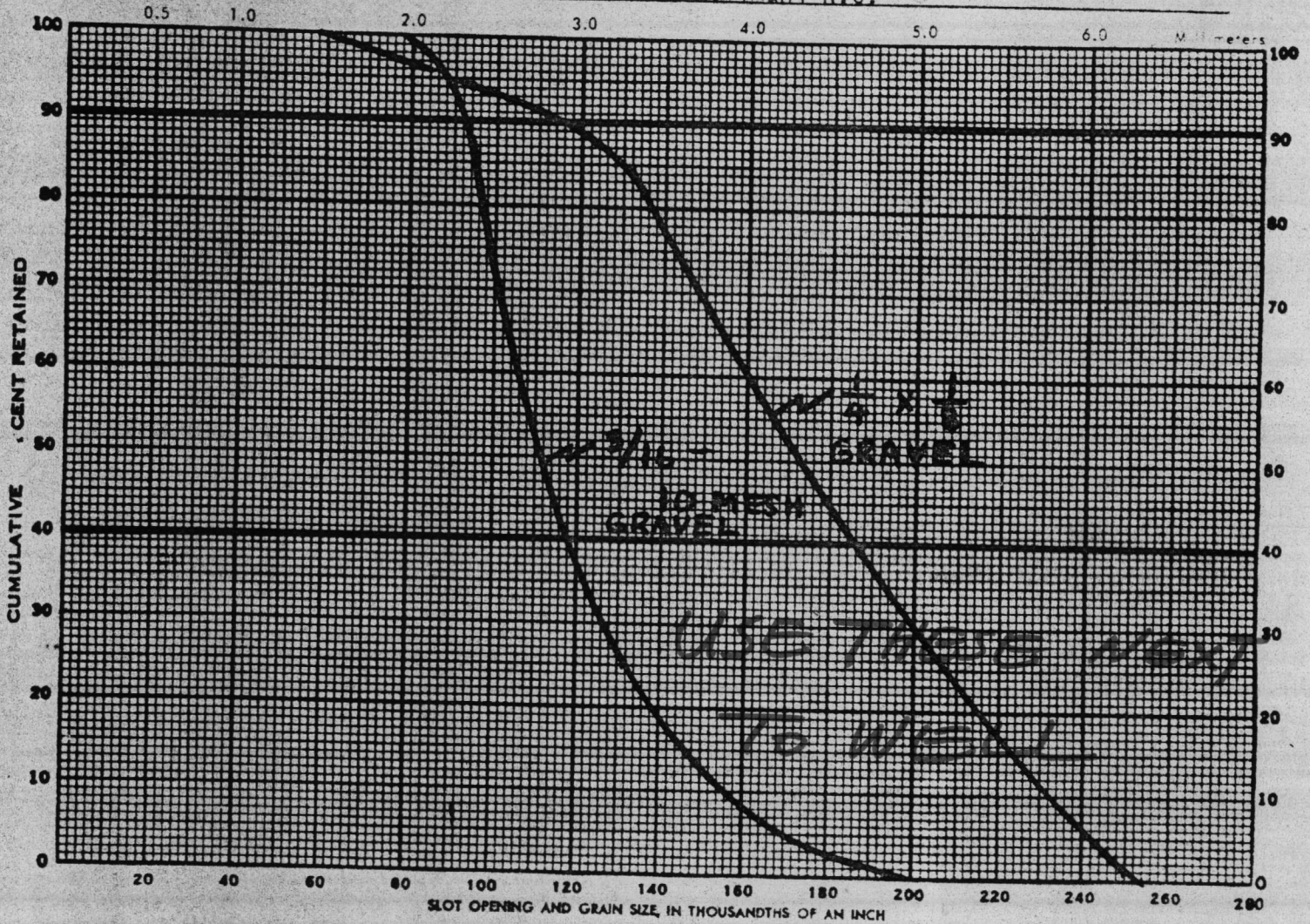
Sample sent in by SOUTHERN PRODUCTS & SILICA COMPANY

Town LILES VILLE

State No. Carolina Date 10 MAY, 1971

From well of \_\_\_\_\_

Remarks Around August or September, moving operation to Hoffman, No. Carolina.  
And this material will be available at Hoffman, N.C.



SIEVE OPENINGS	CUMULATIVE PER CENT RETAINED				Sand	Permeability		Eff. size mm	U.C.	Price FOB	
	3/16 - 10 MESH	1/4 x 1/8	1/4 x 1/8	1/4 x 1/8		Falling head gpd/ft <sup>2</sup>	Const. head			Bulk Ton	Bag 100 lb
.250											
.187	1	39									
.132	25	84									
.094	88	94			3/16 10 MESH			2.33	1.26	\$8.00	15.00
.066					1/4 x 1/8			2.88	1.61	\$8.00	15.00
.047											
.033											
.023											

SO MANY CONSIDERATIONS ENTER INTO THE MAKING OF A GOOD WELL THAT, WHILE WE BELIEVE SLOT SIZES FURNISHED OR RECOMMENDED FROM SAND SAMPLES ARE CORRECT WE ASSUME NO RESPONSIBILITY FOR THE SUCCESSFUL OPERATION OF JOHNSON WELL SCREENS





# AIR RELEASE VALVES

## WHY and WHERE to use

An Air Release Valve has a small venting orifice and is used wherever air is entrained in water *under pressure*. These pockets of air increase the resistance to the flow of water; and in critical installations, can reduce the capacity of a line down to zero. The most serious feature of this increased resistance however, is that most installations may suffer

only a small increased resistance of say 10 or 15%. The increased resistance may be overcome by the pump using more power than necessary to move the required amount of water. Such a loss can continue unnoticed for years and is the reason why all points where air can collect should be equipped with APCO Air Release Valves.

**3/4" NO. 61** **PHYSICAL DIMENSIONS**  
 Height... 5 1/2" Weight... 2 1/2 #  
 Width... 2 1/4"  
 Inlet—3/4" pipe thread  
 All Bronze  
 75 P.S.I. Maximum Working Pressure

**1" NO. 75** **PHYSICAL DIMENSIONS**  
 Height... 9 1/4" Weight... 11 #  
 Width... 5 1/4"  
 Inlet—1" pipe thread

EAST COAST CONSTRUCTION CO., INC  
 CONTRACT N62470-76-C-6799  
 REPLACE FOUR WATER WELLS  
 MARINE CORPS BASE

**1/2" NO. 55** **PHYSICAL DIMENSIONS**  
 Height... 5" Length... 6 3/8"  
 Width... 3 3/8" Weight... 5 1/2 #  
 Inlet—1/2" pipe thread

**3/4" NO. 65** **PHYSICAL DIMENSIONS**  
 Height... 7" Length... 8 1/2"  
 Width... 4 1/2" Weight... 9 #  
 Inlet—3/4" pipe thread

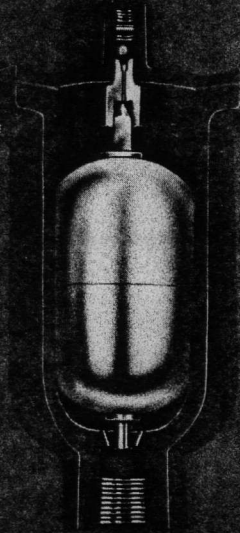
## Also Use On...

1. Centrifugal Pumps
2. Hydropneumatic Tanks
3. Pipe Lines
4. Enclosed Systems
5. Sewage Lines

For Selection Data See Bulletin 610 or Page 2  
 Catalog 726

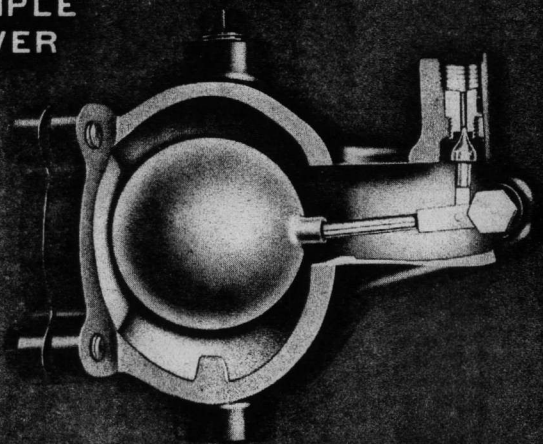
## DIRECT ACTING

SPECIFY IF  
OPERATING  
PRESSURES  
BELOW  
20 PSI



Good For Pressures up to 150 P.S.I.

## SIMPLE LEVER



Good For Pressures up to 150 P.S.I.

## APCO Uses Stainless

*Examine these exclusive features which*

1. Insures full efficiency of line operation
2. Conserves pump horse power—no restricted high points
3. Stainless steel floats—guaranteed for 1000 P.S.I.

# VALVES

Increased resistance may be overcome by the pump and more power than is needed to move the required amount of water. Such a loss can continue unnoticed for years and a fire alarm call point where an alarm call should be applied with AFCA Air Release Valves.



WHY  
AND  
WHERE  
to use

PHYSICAL DIMENSIONS  
NO. 100  
NO. 101  
NO. 102



PHYSICAL DIMENSIONS  
NO. 103  
NO. 104  
NO. 105

PHYSICAL DIMENSIONS  
NO. 106  
NO. 107  
NO. 108



PHYSICAL DIMENSIONS  
NO. 109  
NO. 110  
NO. 111

AFCA Air Release Valves are available in a wide range of sizes and materials to suit your requirements.

For more information, contact your local AFCA representative or write to AFCA, 1000 West 10th Street, Denver, Colorado 80202.

Also see...

1. AFCA	2. AFCA
3. AFCA	4. AFCA
5. AFCA	6. AFCA
7. AFCA	8. AFCA
9. AFCA	10. AFCA
11. AFCA	12. AFCA
13. AFCA	14. AFCA
15. AFCA	16. AFCA
17. AFCA	18. AFCA
19. AFCA	20. AFCA
21. AFCA	22. AFCA
23. AFCA	24. AFCA
25. AFCA	26. AFCA
27. AFCA	28. AFCA
29. AFCA	30. AFCA
31. AFCA	32. AFCA
33. AFCA	34. AFCA
35. AFCA	36. AFCA
37. AFCA	38. AFCA
39. AFCA	40. AFCA
41. AFCA	42. AFCA
43. AFCA	44. AFCA
45. AFCA	46. AFCA
47. AFCA	48. AFCA
49. AFCA	50. AFCA
51. AFCA	52. AFCA
53. AFCA	54. AFCA
55. AFCA	56. AFCA
57. AFCA	58. AFCA
59. AFCA	60. AFCA
61. AFCA	62. AFCA
63. AFCA	64. AFCA
65. AFCA	66. AFCA
67. AFCA	68. AFCA
69. AFCA	70. AFCA
71. AFCA	72. AFCA
73. AFCA	74. AFCA
75. AFCA	76. AFCA
77. AFCA	78. AFCA
79. AFCA	80. AFCA
81. AFCA	82. AFCA
83. AFCA	84. AFCA
85. AFCA	86. AFCA
87. AFCA	88. AFCA
89. AFCA	90. AFCA
91. AFCA	92. AFCA
93. AFCA	94. AFCA
95. AFCA	96. AFCA
97. AFCA	98. AFCA
99. AFCA	100. AFCA

**CONTRACTOR'S SUBMITTAL TRANSMITTAL**

5NF LANTDIV 4-4355/3 (Rev. 6/76)

*Beath* *field*

CONTRACT NO. **78-C-3001** TRANSMITTAL NO. **3A** DATE **10-31-78**

FROM CONTRACTOR  
**EAST COAST CONSTRUCTION CO., INC.**

PROJECT TITLE AND LOCATION  
**CONTRACT: N62470-78-C-3001**  
**Water Supply Line, Amphibian Base**  
**Marine Corps Base, Camp LeJune, NC**

TO **ROICC JAX NC Area**

**CONTRACTOR USE ONLY**

**REVIEWER USE ONLY**

\*List only one specification division per form.

\*\*ACTION CODES

List only one of the following categories on each transmittal form,  
and indicate which is being submitted

A-Approved  
D-Disapproved  
AN-Approved as noted  
RA-Receipt acknowledged.  
C-Comments  
R-Resubmit

- Contractor Approved       OICC Approval       Deviation/Substitution For OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
1	15872 4.3.2.	Ductile Iron Pipe By Atlantic States	7	<i>C</i>	<i>PTA</i>
				<i>A</i>	<i>PTA</i>

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

**ONE**

CONTRACTOR REPRESENTATIVE (Signature)

*William H. Cook Jr.*

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

REVIEWER'S COMMENTS

~~RESUBMIT IN ACCORDANCE WITH~~  
~~SPEC DIV. 1 PAR 13. DONE~~

*NOV 13 05:55*

COPIES TO:  
ROICC (2)  
LANTDIV (1)  
A-E (1)

DATE

14 Nov 78

SIGNATURE

*K. P. Frey*  
K. P. FREY, LTJG, CEC, USN AROICC

NOTICE TAX NC AREA

Blaine Corps Base, Camp Letune, NC  
Water Supply Line, Amphibian Base  
CONTRACT NO: H0410-18-0-3001

DATE: 10-31-17  
PROJECT NO: 78-2-3001

List only one of the following categories on each submittal form and indicate which is being submitted:  
 General Approval  
 OIGC Approval  
 Deviation Submittal  
 For OIGC Approval

REVIEWER USE ONLY  
ACTION CODES  
A-Approved  
D-Disapproved  
AM-Approved as noted  
RA-Request acknowledged  
C-Correction  
R-Resubmit

ITEM NO	PROJ SPEC SECT & PARA and/or PROJ DWG NO	ITEM IDENTIFICATION (Type, size, model no., Mfg name, dwg or product's number)	TO: CODES	FROM: CODES	REVIEWER'S INITIALS CODE AND DATE
1	A.3.2.	Ductile Iron Pipe by Atlantic States			

COPIES OF TRANSMITTAL AND SUBMITTALS TO BE SENT

ONE

CONTRACTOR REPRESENTATIVE SIGNATURE

*[Signature]*

Submittals are forwarded to the OIGC with a recommendation indicated in REVIEWER USE ONLY section and transmitted below on ONE COPY of the transmittal form.  
 Submittals are returned with each indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

REVIEWER'S COMMENTS

STRICTLY PERMITTED BY APPROVAL OF CONTRACT NO. H0410-18-0-3001

COPIES TO:  
PROJ. NO.  
CONTRACT NO.

SIGNATURE

*[Signature]*

# Ductile Iron Pipe by Atlantic States

This catalog has been prepared to give complete DUCTILE IRON PIPE information in condensed form. It is a compilation of the technical data that is necessary on most water and waste water projects using either TYTON JOINT® or Standardized Mechanical Joint Pipe. Additional technical information on these items is available on request.

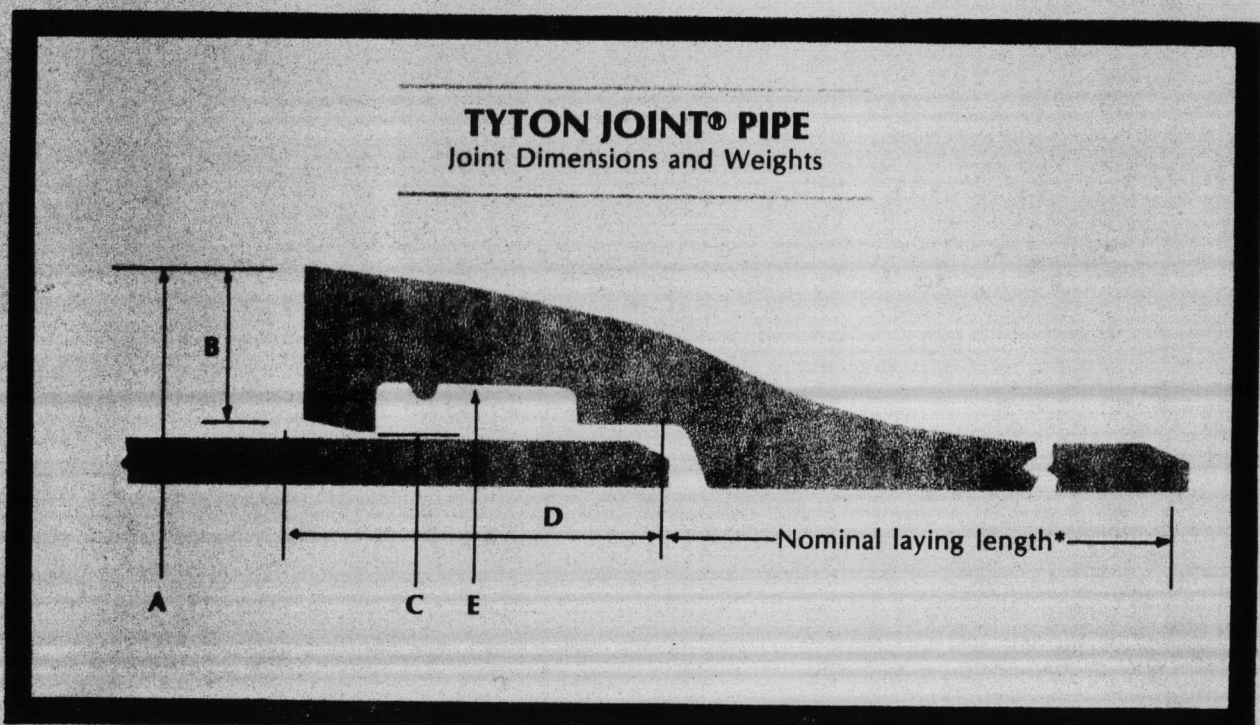
Ductile Iron pipe is normally purchased to conform to standards of the American National Standards Institute and the American Water Works Association. These standards are identical: ANSI A21.51 and AWWA C151. They cover Ductile Iron pipe designed under ANSI A21.50 and AWWA C150, "Thickness Design of Ductile-Iron Pipe."

Pipe thicknesses are calculated on the basis of internal and external pressures,

trench factors, earth loads, allowance for truck superload, beam load, service allowance, foundry tolerances, and a consideration of minimum thickness for tapping. The Ductile Iron is required to have a minimum tensile strength of 60,000 pounds per square inch, a minimum yield strength of 42,000 pounds per square inch and minimum elongation of 10 percent.

The thicknesses, dimensions and weights are nominal and subject to the tolerances listed in the standards. Metric conversions are shown in parentheses throughout most of this catalog. These are not those specified in ISO standards.

Full information can be secured from this catalog on the pipe required for laying conditions Type 1 through Type 5 for working pressures up to 350 pounds per square inch, for various depths of cover.



OFFICE OF THE  
OFFICER IN CHARGE OF CONSTRUCTION  
CAMP LEJEUNE, NORTH CAROLINA

**APPROVED**

SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT N62470-78-C-3001

DATE 16 NOV. 78 *EPH*

C. A. TACK  
CDR, GEC, USN  
Officer in Charge  
of Construction

## THICKNESSES, DIMENSIONS AND WEIGHTS OF TYTON JOINT® AND MECHANICAL JOINT DUCTILE IRON PIPE CLASSIFIED BY SIZE FOR EACH THICKNESS CLASS

Pipe manufactured in accordance with ANSI A21.51 and AWWA C151 under method of design outlined in ANSI A21.50.

Pipe Size In.	Thick-ness Class	Thick-ness In. (mm)	OD* In. (mm)	Wt. of Barrel Per Ft. Lb.	Tyton Joint			Mechanical Joint		
					Wt. of Bell Lb. (kg)	Wt. Per Lgth.† Lb. (kg)	Avg. Wt. Per Ft.‡ Lb. (kg)	Wt. of Bell Lb. (kg)	Wt. Per Lgth.† Lb. (kg)	Avg. Wt. Per Ft.‡ Lb. (kg)
3	51	.25 (6.4)	3.96 (100.6)	8.9	9 (4.08)	185 (83.91)	9.4 (42.6)	11 (4.98)	190 (86.18)	9.4 (4.26)
3	52	.28 (7.1)	3.96 (100.6)	9.9	9 (4.08)	205 (92.99)	10.4 (4.72)	11 (4.98)	210 (95.25)	10.4 (4.72)
3	53	.31 (7.9)	3.96 (100.6)	10.9	9 (4.08)	225 (102.06)	11.4 (5.17)	11 (4.98)	230 (104.33)	11.4 (5.17)
3	54	.34 (8.6)	3.96 (100.6)	11.8	9 (4.08)	245 (111.13)	12.2 (5.53)	11 (4.98)	245 (111.13)	12.4 (5.62)
3	55	.37 (9.4)	3.96 (100.6)	12.8	9 (4.08)	265 (120.20)	13.2 (5.99)	11 (4.98)	265 (120.20)	13.4 (6.08)
3	56	.40 (10.2)	3.96 (100.6)	13.7	9 (4.08)	285 (129.27)	14.2 (6.44)	11 (4.98)	285 (129.27)	14.2 (6.44)
4	51	.26 (6.6)	4.80 (121.9)	11.3	11 (4.98)	235 (106.59)	11.8 (5.35)	16 (7.25)	240 (108.86)	12.1 (5.49)
4	52	.29 (7.4)	4.80 (121.9)	12.6	11 (4.98)	265 (120.20)	13.2 (5.99)	16 (7.25)	270 (122.47)	13.4 (6.08)
4	53	.32 (8.1)	4.80 (121.9)	13.8	11 (4.98)	285 (129.27)	14.4 (6.53)	16 (7.25)	290 (131.54)	14.6 (6.62)
4	54	.35 (8.9)	4.80 (121.9)	15.0	11 (4.98)	310 (140.61)	15.6 (7.08)	16 (7.25)	315 (142.88)	15.8 (7.17)
4	55	.38 (9.7)	4.80 (121.9)	16.1	11 (4.98)	335 (151.95)	16.6 (7.53)	16 (7.25)	340 (154.22)	16.9 (7.67)
4	56	.41 (10.4)	4.80 (121.9)	17.3	11 (4.98)	355 (161.03)	17.8 (8.07)	16 (7.25)	360 (163.29)	18.1 (8.21)
6	50	.25 (6.4)	6.90 (175.3)	16.0	18 (8.16)	305 (138.36)	17.0 (7.71)	22 (9.97)	310 (140.61)	17.2 (7.80)
6	51	.28 (7.1)	6.90 (175.3)	17.8	18 (8.16)	340 (154.22)	18.8 (8.53)	22 (9.97)	340 (154.22)	19.0 (8.62)
6	52	.31 (7.9)	6.90 (175.3)	19.6	18 (8.16)	370 (167.83)	20.6 (9.34)	22 (9.97)	375 (170.10)	20.8 (9.43)
6	53	.34 (8.6)	6.90 (175.3)	21.4	18 (8.16)	405 (183.70)	22.4 (10.16)	22 (9.97)	405 (183.70)	22.6 (10.25)
6	54	.37 (9.4)	6.90 (175.3)	23.2	18 (8.16)	435 (197.31)	24.2 (10.98)	22 (9.97)	440 (199.58)	24.4 (11.07)
6	55	.40 (10.2)	6.90 (175.3)	25.0	18 (8.16)	470 (213.19)	26.0 (11.79)	22 (9.97)	470 (213.19)	26.2 (11.88)
6	56	.43 (10.9)	6.90 (175.3)	26.7	18 (8.16)	500 (226.80)	27.7 (12.56)	22 (9.97)	505 (229.06)	27.9 (12.66)
8	50	.27 (6.9)	9.05 (229.9)	22.8	26 (11.79)	435 (197.31)	24.2 (10.98)	29 (13.15)	440 (199.58)	24.4 (11.07)
8	51	.30 (7.6)	9.05 (229.9)	25.2	26 (11.79)	480 (217.72)	26.6 (12.07)	29 (13.15)	485 (219.99)	26.8 (12.16)
8	52	.33 (8.4)	9.05 (229.9)	27.7	26 (11.79)	525 (238.14)	29.1 (13.20)	29 (13.15)	530 (240.40)	29.3 (13.29)
8	53	.36 (9.1)	9.05 (229.9)	30.1	26 (11.79)	570 (258.55)	31.5 (14.29)	29 (13.15)	570 (258.55)	31.7 (14.38)
8	54	.39 (9.9)	9.05 (229.9)	32.5	26 (11.79)	610 (276.69)	33.9 (15.38)	29 (13.15)	615 (278.96)	34.1 (15.47)
8	55	.42 (10.7)	9.05 (229.9)	34.8	26 (11.79)	650 (294.84)	36.2 (16.42)	29 (13.15)	655 (297.10)	36.4 (16.51)
8	56	.45 (11.4)	9.05 (229.9)	37.2	26 (11.79)	695 (315.25)	38.6 (17.51)	29 (13.15)	700 (317.51)	38.8 (17.60)
10	50	.29 (7.4)	11.10 (281.9)	30.1	34 (15.42)	575 (260.82)	32.0 (14.51)	39 (17.69)	580 (263.08)	32.3 (14.65)
10	51	.32 (8.1)	11.10 (281.9)	33.2	34 (15.42)	630 (285.76)	35.1 (15.92)	39 (17.69)	635 (288.03)	35.4 (16.06)
10	52	.35 (8.9)	11.10 (281.9)	36.2	34 (15.42)	685 (310.71)	38.1 (17.28)	39 (17.69)	690 (312.98)	38.4 (17.42)
10	53	.38 (9.7)	11.10 (281.9)	39.2	34 (15.42)	740 (335.66)	41.1 (18.64)	39 (17.69)	745 (337.93)	41.4 (18.78)
10	54	.41 (10.4)	11.10 (281.9)	42.1	34 (15.42)	790 (358.34)	44.0 (19.96)	39 (17.69)	795 (360.61)	44.3 (20.09)
10	55	.44 (11.2)	11.10 (281.9)	45.1	34 (15.42)	845 (383.29)	47.0 (21.32)	39 (17.69)	850 (385.55)	47.3 (21.45)
10	56	.47 (11.9)	11.10 (281.9)	48.0	34 (15.42)	900 (408.23)	49.9 (22.63)	39 (17.69)	905 (410.50)	50.2 (22.77)
12	50	.31 (7.9)	13.20 (335.3)	38.4	43 (19.50)	735 (333.39)	40.8 (18.51)	49 (22.22)	740 (335.66)	41.1 (18.64)
12	51	.34 (8.6)	13.20 (335.3)	42.0	43 (19.50)	800 (362.87)	44.4 (20.14)	49 (22.22)	805 (365.14)	44.7 (20.28)
12	52	.37 (9.4)	13.20 (335.3)	45.6	43 (19.50)	865 (392.36)	48.0 (21.77)	49 (22.22)	870 (394.63)	48.3 (21.91)
12	53	.40 (10.2)	13.20 (335.3)	49.2	43 (19.50)	930 (421.84)	51.6 (23.41)	49 (22.22)	935 (424.10)	51.9 (23.54)
12	54	.43 (10.9)	13.20 (335.3)	52.8	43 (19.50)	995 (451.32)	55.2 (25.04)	49 (22.22)	1000 (453.59)	55.5 (25.17)
12	55	.46 (11.7)	13.20 (335.3)	56.3	43 (19.50)	1055 (478.54)	58.7 (26.63)	49 (22.22)	1060 (480.81)	59.0 (26.76)
12	56	.49 (12.4)	13.20 (335.3)	59.9	43 (19.50)	1120 (508.02)	62.3 (28.26)	49 (22.22)	1125 (510.29)	62.6 (28.39)

\*3"-4" Nominal 20' laying length.  
6"-24" Nominal 18' laying length.

OFFICE OF THE  
OFFICER IN CHARGE OF CONSTRUCTION  
CAMP LEJEUNE, NORTH CAROLINA

APPROVED

SUBJECT TO CONTRACT REQUIREMENTS  
CONTRACT N62470-78-C-3001

DATE 16 NOV. 78 *EM*

C. A. TACK  
CDR, CEC, USN  
Officer in Charge  
of Construction

"It is hereby certified that the (EQUIPMENT)  
(MATERIAL) shown and marked in this sub-  
mittal is that proposed to be incorporated  
into contract number \_\_\_\_\_,  
is in compliance with the contract drawings  
and specifications, can be installed in the  
allocated spaces, and is submitted for  
government approval."

CONTRACT: N62470-78-C-3001  
Water Supply Line, Amphibian Base  
Marine Corps Base, Camp LeJune, NC

Certified by *uly*

Date 10-31-78



# Ductile Iron Pipe by Atlantic States

This catalog has been prepared to give complete DUCTILE IRON PIPE information in condensed form. It is a compilation of the technical data that is necessary on most water and waste water projects using either TYTON JOINT® or Standardized Mechanical Joint Pipe. Additional technical information on these items is available on request.

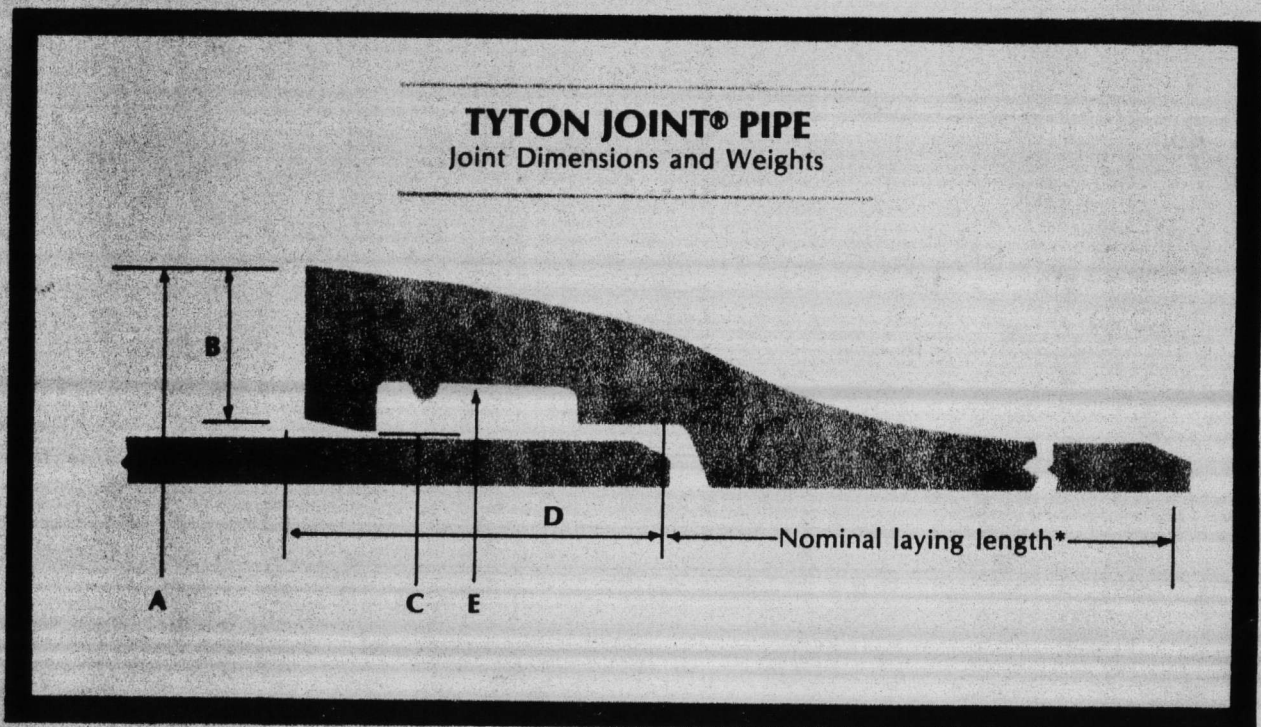
Ductile Iron pipe is normally purchased to conform to standards of the American National Standards Institute and the American Water Works Association. These standards are identical: ANSI A21.51 and AWWA C151. They cover Ductile Iron pipe designed under ANSI A21.50 and AWWA C150, "Thickness Design of Ductile-Iron Pipe."

Pipe thicknesses are calculated on the basis of internal and external pressures,

trench factors, earth loads, allowance for truck superload, beam load, service allowance, foundry tolerances, and a consideration of minimum thickness for tapping. The Ductile Iron is required to have a minimum tensile strength of 60,000 pounds per square inch, a minimum yield strength of 42,000 pounds per square inch and minimum elongation of 10 percent.

The thicknesses, dimensions and weights are nominal and subject to the tolerances listed in the standards. Metric conversions are shown in parentheses throughout most of this catalog. These are not those specified in ISO standards.

Full information can be secured from this catalog on the pipe required for laying conditions Type 1 through Type 5 for working pressures up to 350 pounds per square inch, for various depths of cover.



OFFICE OF THE  
OFFICER IN CHARGE OF CONSTRUCTION  
CAMP LEJEUNE, NORTH CAROLINA 300

*[Handwritten signature]*  
**APPROVED**

SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT NG2470-78-C-3001

DATE 16 NOV. 78 *[Handwritten initials]*

C. A. TACK  
CDR, CEC, USN  
Officer in Charge  
of Construction

## THICKNESSES, DIMENSIONS AND WEIGHTS OF TYTON JOINT® AND MECHANICAL JOINT DUCTILE IRON PIPE CLASSIFIED BY SIZE FOR EACH THICKNESS CLASS

Pipe manufactured in accordance with ANSI A21.51 and AWWA C151 under method of design outlined in ANSI A21.50.

Pipe Size In.	Thick- ness Class	Thick- ness In. (mm)	OD* In. (mm)	Wt. of Barrel Per Ft. Lb.	Tyton Joint			Mechanical Joint		
					Wt. of Bell Lb. (kg)	Wt. Per Lgth.† Lb. (kg)	Avg. Wt. Per. Ft.‡ Lb. (kg)	Wt. of Bell Lb. (kg)	Wt. Per Lgth.† Lb. (kg)	Avg. Wt. Per Ft.‡ Lb. (kg)
3	51	.25 (6.4)	3.96 (100.6)	8.9	9 (4.08)	185 (83.91)	9.4 (42.6)	11 (4.98)	190 (86.18)	9.4 (4.26)
3	52	.28 (7.1)	3.96 (100.6)	9.9	9 (4.08)	205 (92.99)	10.4 (4.72)	11 (4.98)	210 (95.25)	10.4 (4.72)
3	53	.31 (7.9)	3.96 (100.6)	10.9	9 (4.08)	225 (102.06)	11.4 (5.17)	11 (4.98)	230 (104.33)	11.4 (5.17)
3	54	.34 (8.6)	3.96 (100.6)	11.8	9 (4.08)	245 (111.13)	12.2 (5.53)	11 (4.98)	245 (111.13)	12.4 ( 5.62)
3	55	.37 (9.4)	3.96 (100.6)	12.8	9 (4.08)	265 (120.20)	13.2 (5.99)	11 (4.98)	265 (120.20)	13.4 ( 6.08)
3	56	.40 (10.2)	3.96 (100.6)	13.7	9 (4.08)	285 (129.27)	14.2 (6.44)	11 (4.98)	285 (129.27)	14.2 (6.44)
4	51	.26 (6.6)	4.80 (121.9)	11.3	11 (4.98)	235 (106.59)	11.8 (5.35)	16 (7.25)	240 (108.86)	12.1 (5.49)
4	52	.29 (7.4)	4.80 (121.9)	12.6	11 (4.98)	265 (120.20)	13.2 (5.99)	16 (7.25)	270 (122.47)	13.4 (6.08)
4	53	.32 (8.1)	4.80 (121.9)	13.8	11 (4.98)	285 (129.27)	14.4 (6.53)	16 (7.25)	290 (131.54)	14.6 (6.62)
4	54	.35 (8.9)	4.80 (121.9)	15.0	11 (4.98)	310 (140.61)	15.6 (7.08)	16 (7.25)	315 (142.88)	15.8 (7.17)
4	55	.38 (9.7)	4.80 (121.9)	16.1	11 (4.98)	335 (151.95)	16.6 (7.53)	16 (7.25)	340 (154.22)	16.9 (7.67)
4	56	.41 (10.4)	4.80 (121.9)	17.3	11 (4.98)	355 (161.03)	17.8 (8.07)	16 (7.25)	360 (163.29)	18.1 (8.21)
6	50	.25 (6.4)	6.90 (175.3)	16.0	18 (8.16)	305 (138.36)	17.0 (7.71)	22 (9.97)	310 (140.61)	17.2 (7.80)
6	51	.28 (7.1)	6.90 (175.3)	17.8	18 (8.16)	340 (154.22)	18.8 (8.53)	22 (9.97)	340 (154.22)	19.0 (8.62)
6	52	.31 (7.9)	6.90 (175.3)	19.6	18 (8.16)	370 (167.83)	20.6 (9.34)	22 (9.97)	375 (170.10)	20.8 (9.43)
6	53	.34 (8.6)	6.90 (175.3)	21.4	18 (8.16)	405 (183.70)	22.4 (10.16)	22 (9.97)	405 (183.70)	22.6 (10.25)
6	54	.37 (9.4)	6.90 (175.3)	23.2	18 (8.16)	435 (197.31)	24.2 (10.98)	22 (9.97)	440 (199.58)	24.4 (11.07)
6	55	.40 (10.2)	6.90 (175.3)	25.0	18 (8.16)	470 (213.19)	26.0 (11.79)	22 (9.97)	470 (213.19)	26.2 (11.88)
6	56	.43 (10.9)	6.90 (175.3)	26.7	18 (8.16)	500 (226.80)	27.7 (12.56)	22 (9.97)	505 (229.06)	27.9 (12.66)
8	50	.27 (6.9)	9.05 (229.9)	22.8	26 (11.79)	435 (197.31)	24.2 (10.98)	29 (13.15)	440 (199.58)	24.4 (11.07)
8	51	.30 (7.6)	9.05 (229.9)	25.2	26 (11.79)	480 (217.72)	26.6 (12.07)	29 (13.15)	485 (219.99)	26.8 (12.16)
8	52	.33 (8.4)	9.05 (229.9)	27.7	26 (11.79)	525 (238.14)	29.1 (13.20)	29 (13.15)	530 (240.40)	29.3 (13.29)
8	53	.36 (9.1)	9.05 (229.9)	30.1	26 (11.79)	570 (258.55)	31.5 (14.29)	29 (13.15)	570 (258.55)	31.7 (14.38)
8	54	.39 (9.9)	9.05 (229.9)	32.5	26 (11.79)	610 (276.69)	33.9 (15.38)	29 (13.15)	615 (278.96)	34.1 (15.47)
8	55	.42 (10.7)	9.05 (229.9)	34.8	26 (11.79)	650 (294.84)	36.2 (16.42)	29 (13.15)	655 (297.10)	36.4 (16.51)
8	56	.45 (11.4)	9.05 (229.9)	37.2	26 (11.79)	695 (315.25)	38.6 (17.51)	29 (13.15)	700 (317.51)	38.8 (17.60)
10	50	.29 (7.4)	11.10 (281.9)	30.1	34 (15.42)	575 (260.82)	32.0 (14.51)	39 (17.69)	580 (263.08)	32.3 (14.65)
10	51	.32 (8.1)	11.10 (281.9)	33.2	34 (15.42)	630 (285.76)	35.1 (15.92)	39 (17.69)	635 (288.03)	35.4 (16.06)
10	52	.35 (8.9)	11.10 (281.9)	36.2	34 (15.42)	685 (310.71)	38.1 (17.28)	39 (17.69)	690 (312.98)	38.4 (17.42)
10	53	.38 (9.7)	11.10 (281.9)	39.2	34 (15.42)	740 (335.66)	41.1 (18.64)	39 (17.69)	745 (337.93)	41.4 (18.78)
10	54	.41 (10.4)	11.10 (281.9)	42.1	34 (15.42)	790 (358.34)	44.0 (19.96)	39 (17.69)	795 (360.61)	44.3 (20.09)
10	55	.44 (11.2)	11.10 (281.9)	45.1	34 (15.42)	845 (383.29)	47.0 (21.32)	39 (17.69)	850 (385.55)	47.3 (21.45)
10	56	.47 (11.9)	11.10 (281.9)	48.0	34 (15.42)	900 (408.23)	49.9 (22.63)	39 (17.69)	905 (410.50)	50.2 (22.77)
12	50	.31 (7.9)	13.20 (335.3)	38.4	43 (19.50)	735 (333.39)	40.8 (18.51)	49 (22.22)	740 (335.66)	41.1 (18.64)
12	51	.34 (8.6)	13.20 (335.3)	42.0	43 (19.50)	800 (362.87)	44.4 (20.14)	49 (22.22)	805 (365.14)	44.7 (20.28)
12	52	.37 (9.4)	13.20 (335.3)	45.6	43 (19.50)	865 (392.36)	48.0 (21.77)	49 (22.22)	870 (394.63)	48.3 (21.91)
12	53	.40 (10.2)	13.20 (335.3)	49.2	43 (19.50)	930 (421.84)	51.6 (23.41)	49 (22.22)	935 (424.10)	51.9 (23.54)
12	54	.43 (10.9)	13.20 (335.3)	52.8	43 (19.50)	995 (451.32)	55.2 (25.04)	49 (22.22)	1000 (453.59)	55.5 (25.17)
12	55	.46 (11.7)	13.20 (335.3)	56.3	43 (19.50)	1055 (478.54)	58.7 (26.63)	49 (22.22)	1060 (480.81)	59.0 (26.76)
12	56	.49 (12.4)	13.20 (335.3)	59.9	43 (19.50)	1120 (508.02)	62.3 (28.26)	49 (22.22)	1125 (510.29)	62.6 (28.39)

\*3"-4" Nominal 20' laying length.  
6"-24" Nominal 18' laying length.

OFFICE OF THE  
OFFICER IN CHARGE OF CONSTRUCTION  
CAMP LEJEUNE, NORTH CAROLINA

APPROVED

SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT N62470-78-C-3001

DATE 16 NOV 78 *CM*

C. A. TACK  
CDR, CEC, USN  
Officer in Charge  
of Construction

"It is hereby certified that the (EQUIPMENT)  
(MATERIAL) shown and marked in this sub-  
mittal is that proposed to be incorporated  
into contract number \_\_\_\_\_,  
is in compliance with the contract drawings  
and specifications, can be installed in the  
allocated spaces, and is submitted for  
government approval."

CONTRACT: N62470-78-C-3001  
Water Supply Line, Amphibian Base  
Marine Corps Base, Camp Lejeune, NC

Certified by *WJ*

Date

10-31-78

**CONTRACTOR'S SUBMITTAL TRANSMITTAL**

5ND LANTDIV 4-4355/3 (Rev. 6/76)

N62470-76-C-6799

CONTRACT NO. 6799	TRANSMITTAL NO. 6	DATE 3-7-78
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FROM CONTRACTOR  
**EAST COAST CONSTRUCTION CO., INC.**  
TO  
**ROICC, CAMP Lejeune, N.C.**

PROJECT TITLE AND LOCATION  
**EAST COAST CONSTRUCTION CO., INC.**  
**CONTRACT N62470-76-C-6799**  
**REPLACE FOUR WATER WELLS**  
**MARINE CORPS BASE**  
**CAMP LEJUENE, NC**

**CONTRACTOR USE ONLY**

**REVIEWER USE ONLY**

\*List only one specification division per form.

**\*\*ACTION CODES**

List only one of the following categories on each transmittal form, and indicate which is being submitted

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
- R-Resubmit

- Contractor Approved     
  OICC Approval     
  Deviation/Substitution For OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
1	15273	Rockwell Model 102 Propeller Meter	7	AN	GRH 3-10-78
					GH

**CONTRACTOR'S COMMENTS**

- 1) MARK UNITS DESIRED ON INDICATOR-TOTALIZER DIAL.
- 2) INDICATE MAXIMUM FLOW REQUIRED,
- 3) MINIMUM FLOW SHOULD READ 20% OF MAXIMUM.
- 4) METER IS 100% ACCURATE @ 220 G.P.M. AND 95% @ 160 GPM

**COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC**

SEVEN

**CONTRACTOR REPRESENTATIVE (Signature)**

*William P. Horne*

DATE RECEIVED BY REVIEWER 3/10/78	FROM (Reviewer) 3/10/78 HORNE	TO EAST COAST
--------------------------------------	----------------------------------	------------------

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

**REVIEWER'S COMMENTS**

1. INDICATOR DIAL SHOULD READ GPM.
2. MAXIMUM FLOW: 300 GPM, INDICATOR DIAL CALIBRATION SHOULD READ ACCORDINGLY.
3. INSURE 22" LENGTH WILL NOT INTERFERE WITH OTHER PIPING IN PUMPHOUSE.

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE 3/10/78	SIGNATURE <i>Gay P. Horne</i>
---	-----------------	----------------------------------

3-7-78

115273

EAST COAST CONSTRUCTION CO. INC.

ROTC CAMP

PROJ. SPEC. FEEL  
PABA  
PLOT TWO NO.

ITEM IDENTIFICATION  
TYPE, size, material, etc. and  
quantity

QTY  
300

115273 Rockwell Model 102 Propeller Meter 7 AN

- 1) METER IS 100% ACCURATE @ 250 G.P.M. AND 15 X 100 G.P.M.
- 2) MINIMUM FLOW SHOULD READ 20% OF MAXIMUM.
- 3) INDICATE MAXIMUM FLOW UNKID.
- 4) MARK UNITS DESIRED ON INDICATOR-TOTALIZER DIAL.

SEVEN

EAST COAST



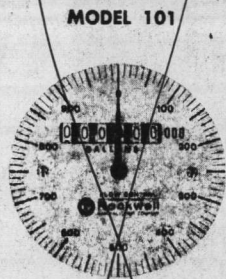
THOMAS HARRIS

3/10/78

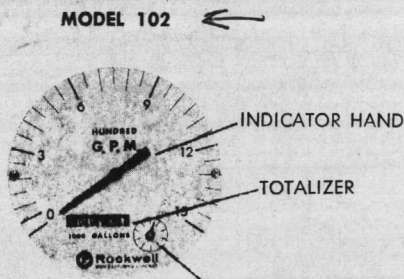
# Rockwell

## PROPELLER METERS

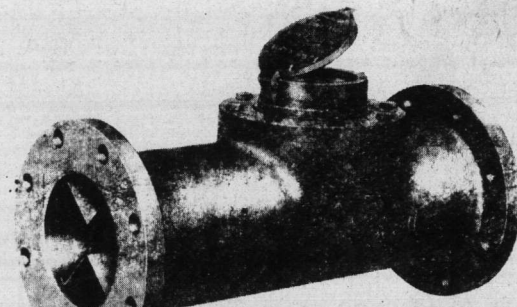
**MODEL 101 and 102**  
 150 psi CAST IRON FLANGED TUBE  
 MAGNETIC DRIVE—SEALED GEAR HOUSING  
 SIZES 2" thru 12"



STANDARD REGISTER



INDICATOR-TOTALIZER



8" MODEL 101 ILLUSTRATED

EAST COAST CONSTRUCTION CO., INC.  
 CONTRACT N62470-76-C-6799  
 REPLACE FOUR WATER WELLS  
 MARINE CORPS BASE  
 CAMP LEJUNE, NC

### DESCRIPTION

**MODEL 101 and 102 FLANGED CAST IRON METERS** are designed to meet AWWA specifications. Flanged ends conform to ANSI Class 125 drilling. Cast iron meter tubes have stainless steel lining and straightening vanes. The 2" and 3" meter tubes do not have full length liners.

**INSTALLATION** is made similar to placing a short length of flanged end pipe in the line. The meter may be installed in any position; vertically, horizontally or inclined; on suction or discharge lines. The meter must have a full flow of liquid for proper accuracy. Valves, fittings or any other obstruction which might set up a flow disturbance should be at least five pipe diameters upstream and one pipe diameter downstream from the meter location.

**PROPELLER** is magnetically coupled with the driven mechanism assembly through the O-ring sealed stainless steel housing. This eliminates water in the mechanism and the need for any packing gland.

**BEARINGS** in the sealed, oil filled gear housing are factory lubricated for the life of the meter. Propeller bearings are designed for simplified field inspection and periodic maintenance.

**STANDARD REGISTER** features a 4" diameter, 100 division, center sweep dial which permits extremely accurate readings for timing purposes in determining flow rates. The register can be positioned in any of four different directions for easiest possible reading when meters are mounted in vertical or overhead installations. The register box is O-ring sealed and attaches to the meter head by four screws located under the register box lid. Oil filled registers are available upon request. The lid has a hasp for padlocking, completely eliminating unauthorized entry or removal.

**CHANGE GEARS** for the register may be easily replaced in the field when a change of registration dials is desired. It is not necessary to remove pressure from the line for this change.

**O-RING** seals are used at the meter head on 6" size meters and larger; the 2" thru 4" meters use a flat gasket. All other points where water seals are required use O-ring seals.

### SPECIFICATIONS

<b>ACCURACY</b>	plus or minus 2% of true flow within specified range.
<b>PRESSURE RANGE</b>	150 psi maximum working pressure. Higher working pressures on request.
<b>TEMPERATURE RANGE</b>	130°F maximum. (Special temperature range upon request.)
<b>MINIMUM FLOWS</b>	as shown are required for accurate registration. Consult factory for special construction for lower flows.
<b>MAXIMUM FLOWS</b>	as shown are rated for continuous duty. Consult factory for special construction for higher continuous flows.
<b>INTERMITTENT FLOWS</b>	as shown are safe for use 10% to 15% of total time meter is operating. Consult factory for high velocity construction for longer operating periods.
<del>STANDARD REGISTER</del>	<del>six digit straight reading type with full 4" diameter, 100 division dial and center sweep test hand. Dials available: ( ) gallons ( ) cubic feet ( ) acre feet ( ) liters ( ) cubic meters ( ) miners inch hours ( ) barrels or other standard units.</del>
<b>INDICATOR-TOTALIZER</b>	is a combination of a 4" dial for instantaneous rate of flow indication and a six digit totalizer. The indicator dial can be furnished to read in (x) gallons per minute ( ) cubic feet per second ( ) million gallons per day, or many other standard units.
<b>MATERIAL</b>	magnets—permanent ceramic sleeve type. bearings—ceramic. tube body—cast iron with stainless steel lining and straightening vanes. meter head—cast iron. shafts and bolts—stainless steel. propeller and other parts—polypropylene or other thermoplastic material resistant to normal water corrosion. gear housing—bronze. propeller spindle (separator)—stainless steel.
<b>OPTIONAL EQUIPMENT</b>	blank covers, register extensions, recording instruments, indicating instruments and transmitters for controls can be furnished for each meter. Special materials can be furnished upon request.

OFFICE OF THE  
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CAMP LEJEUNE, NORTH CAROLINA

APPROVED "AS NOTED"

SUBJECT TO CONTRACT REQUIREMENTS

CONTRACT 76-6799

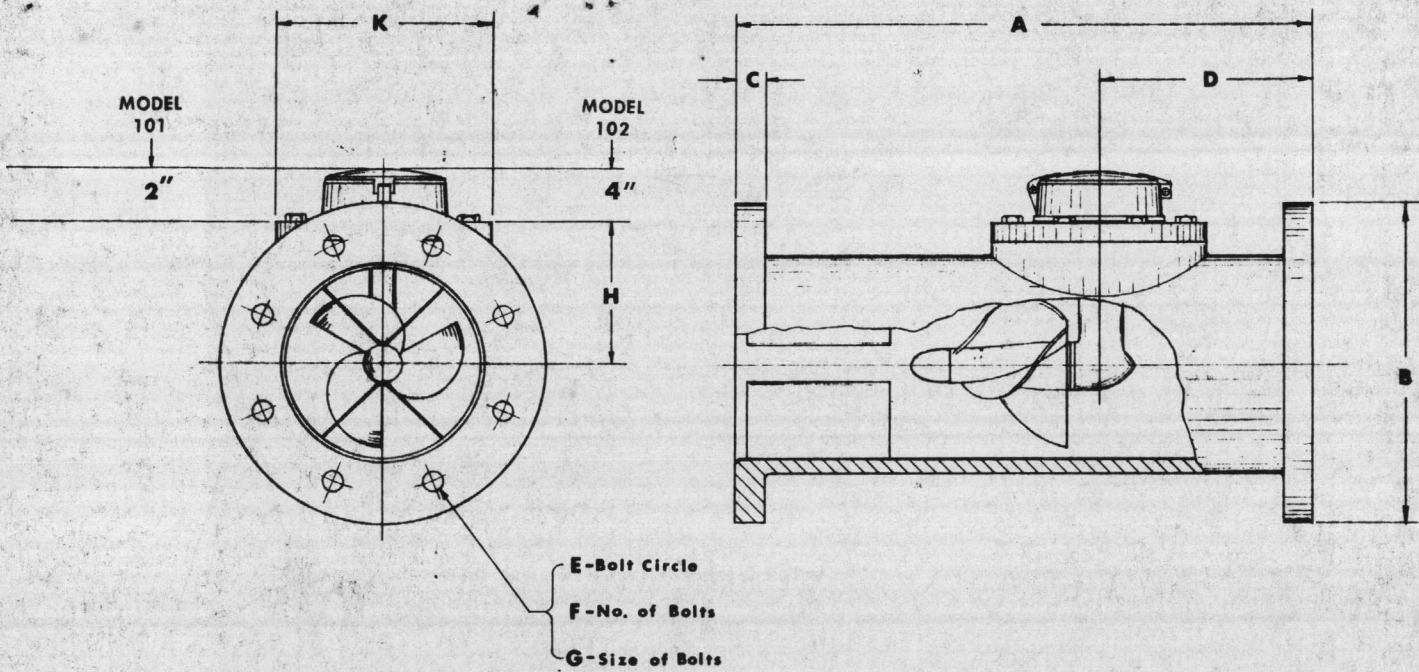
DATE 3/10/78 GRH

C. A. TACK  
CDR, CEC, USN  
Officer in Charge  
of Construction





## MODEL 101 and 102



METER & PIPE SIZE	NORMAL FLOW RANGE GPM		INTERMITTENT FLOW MAXIMUM	DIMENSIONS									SHIPPING WEIGHT POUNDS
	Minimum	Maximum		A	B	C	D	E	F	G	H	K	
2*	35	160	215	14	6	5/8	5 1/2	4 3/4	4	5/8	3 3/8	5	50
3*	40	250	350	16	7 1/2	3/4	6 1/2	6	4	5/8	3 3/8	5	70
4	50	500	700	18	9	1	7 1/2	7 1/2	8	5/8	3 3/8	5	90
6	90	1200	1500	22	11	1	9	9 1/2	8	3/4	5	9	150
8	100	1500	2000	24	13 1/2	1 1/8	9	11 3/4	8	3/4	6	9	220
10	125	2000	3000	26	16	1 1/16	10	14 1/4	12	7/8	7 3/8	11	310
12	150	2500	3500	28	19	1 1/4	10	17	12	7/8	8 3/8	11	420

\*2" and 3" meters for special applications only.

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CDR, CEC, USN  
Officer in Charge  
of Construction

**CONTRACTOR'S SUBMITTAL TRANSMITTAL**

5ND LANTDIV 4-4355/3 (Rev. 6/76)

*Basin*

CONTRACT NO. <b>6800</b>	TRANSMITTAL NO. <b>9</b>	DATE <b>3-7-78</b>
-----------------------------	-----------------------------	-----------------------

**N62470-76-C-800**

FROM CONTRACTOR  
**EAST COAST CONSTRUCTION CO., INC.**  
TO  
**ROICC, CAMP Lejeune, N.C.**

PROJECT TITLE AND LOCATION  
**EAST COAST CONSTRUCTION CO., INC.**  
**CONTRACT N62470-76-C-6800**  
**REPLACE WATER WELLS**  
**MARINE CORPS BASE**  
**CAMP LEJUENE, NC**

*field*

**CONTRACTOR USE ONLY**

**REVIEWER USE ONLY**

\*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

Contractor Approved     
  OICC Approval     
  Deviation/Substitution For OICC Approval

**\*\*ACTION CODES**  
 A-Approved  
 D-Disapproved  
 AN-Approved as noted  
 RA-Receipt acknowledged.  
 C-Comments  
 R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
1	15273	Rockwell Model 102 Propeller Meter	7	*AN	GRH 3/10/78

**CONTRACTOR'S COMMENTS**

1) MARK UNITS DESIRED ON INDICATOR-TOTALIZER DIAL,  
 2) INDICATE MAXIMUM FLOW REQUIRED  
 3) MINIMUM FLOW SHOULD READ 20% OF MAXIMUM  
 4) METER IS 100% Accurate @ 220 GPM and 95% @ 160 GPM

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC: **SEVEN**

CONTRACTOR REPRESENTATIVE (Signature): *William A. Coulter*

DATE RECEIVED BY REVIEWER: **10 MARCH 77**

FROM (Reviewer): **HORNE**

TO: **EAST COAST**

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

**REVIEWER'S COMMENTS**

\*1. INDICATOR DIAL SHOULD READ GPM.  
 2. INSURE 22" LENGTH WILL NOT INTERFERE WITH OTHER PIPING IN PUMPHOUSE; LENGTH ON PLANS SCALES AROUND 11".  
 3. MAXIMUM FLOW WILL BE 300 GPM, INDICATOR DIAL SHOULD READ ACCORDINGLY.

COPIES TO: ROICC (2), LANTDIV (1), A-E (1)

DATE: **3/10/78**

SIGNATURE: *Ray R. Horne*

3/10/78

*[Handwritten signature]*



*[Faint mirrored text from reverse side of page]*

*[Faint mirrored text from reverse side of page]*

2EAEV

- 1) WARRANTS DESIRED ON INDICATE-INTAKE DIAG
- 2) INDICATE MAXIMUM FROM BEDDING
- 3) MINIMUM FROM SHOULD BE 50% OF MAXIMUM
- 4) WELES 12 100% HCOVAD @ 550 RPM AND 250 PSI

*[Faint mirrored text from reverse side of page]*

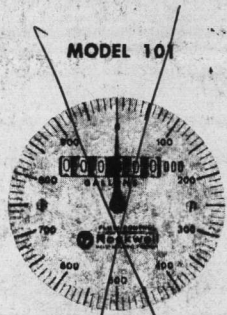
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*[Faint mirrored text from reverse side of page]*

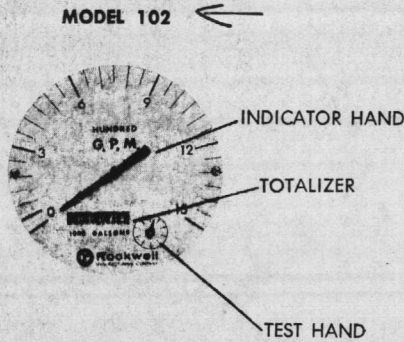
# Rockwell

## PROPELLER METERS

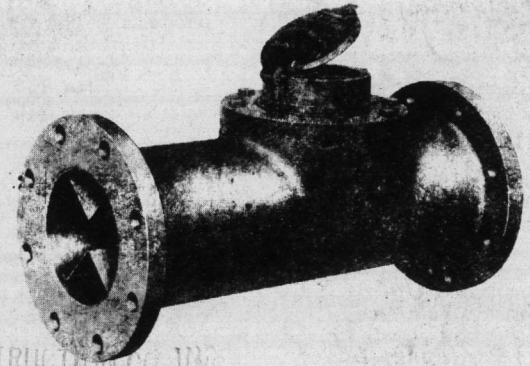
**MODEL 101 and 102**  
 150 psi CAST IRON FLANGED TUBE  
 MAGNETIC DRIVE—SEALED GEAR HOUSING  
 SIZES 2" thru 12"



STANDARD REGISTER



INDICATOR-TOTALIZER



8" MODEL 101 ILLUSTRATED

EAST COAST CONSTRUCTION CO., INC.  
 CONTRACT N62470-76-C-6800  
 REPLACE WATER WELLS  
 MARINE CORPS BASE  
 CAMP LEJUENE, NC

### DESCRIPTION

**MODEL 101 and 102 FLANGED CAST IRON METERS** are designed to meet AWWA specifications. Flanged ends conform to ANSI Class 125 drilling. Cast iron meter tubes have stainless steel lining and straightening vanes. The 2" and 3" meter tubes do not have full length liners.

**INSTALLATION** is made similar to placing a short length of flanged end pipe in the line. The meter may be installed in any position; vertically, horizontally or inclined; on suction or discharge lines. The meter must have a full flow of liquid for proper accuracy. Valves, fittings or any other obstruction which might set up a flow disturbance should be at least five pipe diameters upstream and one pipe diameter downstream from the meter location.

**PROPELLER** is magnetically coupled with the driven mechanism assembly through the O-ring sealed stainless steel housing. This eliminates water in the mechanism and the need for any packing gland.

**BEARINGS** in the sealed, oil filled gear housing are factory lubricated for the life of the meter. Propeller bearings are designed for simplified field inspection and periodic maintenance.

**STANDARD REGISTER** features a 4" diameter, 100 division, center sweep dial which permits extremely accurate readings for timing purposes in determining flow rates. The register can be positioned in any of four different directions for easiest possible reading when meters are mounted in vertical or overhead installations. The register box is O-ring sealed and attaches to the meter head by four screws located under the register box lid. Oil filled registers are available upon request. The lid has a hasp for padlocking, completely eliminating unauthorized entry or removal.

**CHANGE GEARS** for the register may be easily replaced in the field when a change of registration dials is desired. It is not necessary to remove pressure from the line for this change.

**O-RING** seals are used at the meter head on 6" size meters and larger; the 2" thru 4" meters use a flat gasket. All other points where water seals are required use O-ring seals.

### SPECIFICATIONS

- ACCURACY** plus or minus 2% of true flow within specified range.
- PRESSURE RANGE** 150 psi maximum working pressure. Higher working pressures on request.
- TEMPERATURE RANGE** 130°F maximum. (Special temperature range upon request.)
- MINIMUM FLOWS** as shown are required for accurate registration. Consult factory for special construction for lower flows.
- MAXIMUM FLOWS** as shown are rated for continuous duty. Consult factory for special construction for higher continuous flows.
- INTERMITTENT FLOWS** as shown are safe for use 10% to 15% of total time meter is operating. Consult factory for high velocity construction for longer operating periods.
- ~~**STANDARD REGISTER** six digit straight reading type with full 4" diameter, 100 division dial and center sweep test hand. Dials available: ( ) gallons ( ) cubic feet ( ) acre feet ( ) liters ( ) cubic meters ( ) miners inch hours ( ) barrels or other standard units.~~
- INDICATOR-TOTALIZER** is a combination of a 4" dial for instantaneous rate of flow indication and a six digit totalizer. The indicator dial can be furnished to read in (X) gallons per minute ( ) cubic feet per second ( ) million gallons per day, or many other standard units.
- MATERIAL** magnets—permanent ceramic sleeve type.  
 bearings—ceramic.  
 tube body—cast iron with stainless steel lining and straightening vanes.  
 meter head—cast iron.  
 shafts and bolts—stainless steel.  
 propeller and other parts—polypropylene or other thermoplastic material resistant to normal water corrosion.  
 gear housing—bronze.  
 propeller spindle (separator)—stainless steel.
- OPTIONAL EQUIPMENT** blank covers, register extensions, recording instruments, indicating instruments and transmitters for controls can be furnished for each meter. Special materials can be furnished upon request.

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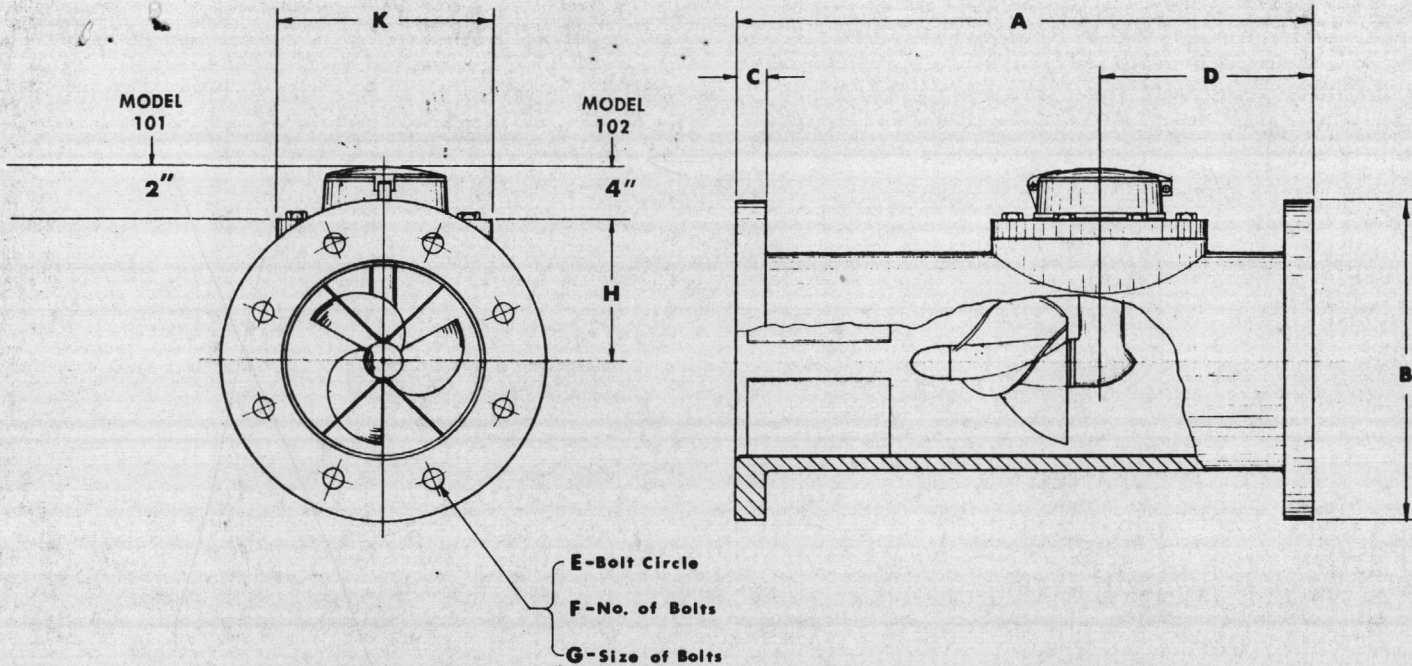
CONTRACT 76-6800

DATE 3/10/78

C. A. TACK GRH  
CDR, CEC, USN  
Officer in Charge  
of Construction



## MODEL 101 and 102



METER & PIPE SIZE	NORMAL FLOW RANGE GPM		INTERMITTENT FLOW MAXIMUM	DIMENSIONS									SHIPPING WEIGHT POUNDS
	Minimum	Maximum		A	B	C	D	E	F	G	H	K	
2*	35	160	215	14	6	5/8	5 1/2	4 3/4	4	5/8	3 3/8	5	50
3*	40	250	350	16	7 1/2	3/4	6 1/2	6	4	5/8	3 3/8	5	70
4	50	500	700	18	9	1	7 1/2	7 1/2	8	5/8	3 3/8	5	90
6	90	1200	1500	22	11	1	9	9 1/2	8	3/4	5	9	150
8	100	1500	2000	24	13 1/2	1 1/8	9	11 3/4	8	3/4	6	9	220
10	125	2000	3000	26	16	1 3/16	10	14 1/4	12	7/8	7 3/8	11	310
12	150	2500	3500	28	19	1 1/4	10	17	12	7/8	8 3/8	11	420

\*2" and 3" meters for special applications only.

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CONTRACT 76-6800

DATE 3/10/78

C. A. TACK GRH  
CDR, CEC, USN  
Officer in Charge  
of Construction



Wells at New River Air Station Date 7 Nov 74  
 Collected

Parameter	HADNOT POINT	MONTFORD POINT	CAMP GEIGER	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER
PH									
PHENOLTHALEIN ALKALINITY									
METHYL ORANGE ALKALINITY									
CARBONATES AS CaCO <sub>3</sub>									
BICARBONATES AS CaCO <sub>3</sub>	3								
CHLORIDES AS Cl		4							
HARDNESS AS CaCO <sub>3</sub>	well 3		6	7	8	10	11		
IRON AS Fe		well 4	well 6	well 7	well 8	well 10	well 11		
TOTAL PHOSPHATE									
ORTHO PHOSPHATE									
META PHOSPHATE	3	4	6	7	8	10	11		
FLUORIDE									
CHLORINE RESIDUAL	0.00	2.08	2.02	0.00	0.00	0.00	0.00	Fluoride <sup>mg/l</sup>	

REMARKS:

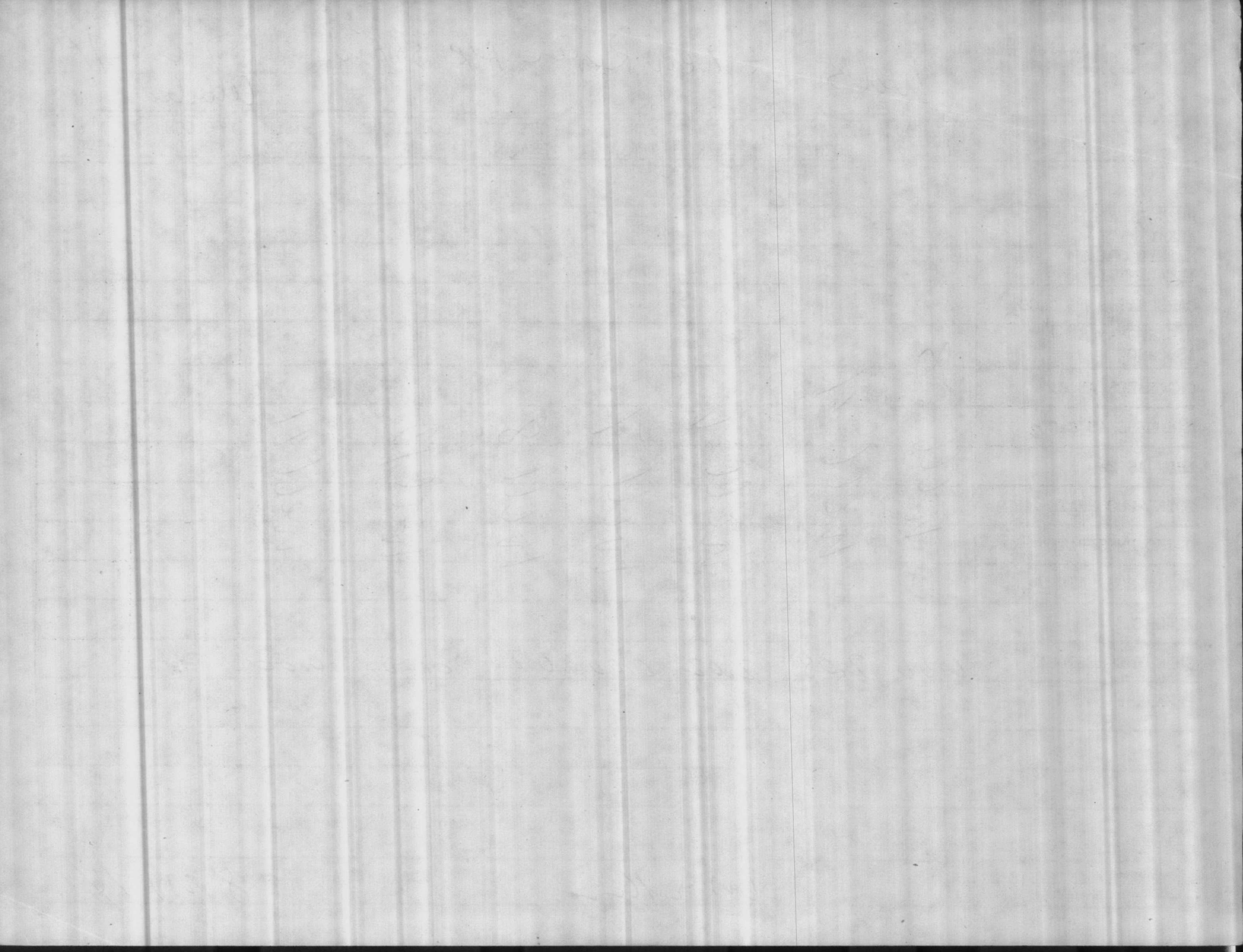
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

LABORATORY ANALYSIS BY:

*[Signature]*

DATE OF ANALYSIS:

8 Nov 74



Wells	pH	TDS	Hardness	Ca <sup>++</sup>	Mg <sup>++</sup>	MO. alk	Chlorides
-2	7.3	320	130	130	0	200	31
-3	8.4	680	40	20	20	350	90
-4	8.4	640	30	14	16	360	88
X 5	7.3	360	160	140	20	240	40
X 6	7.5	640	100	90	10	350	96
-7	7.3	380	182	150	38	290	14
-8	7.5	360	180	160	20	280	19
9	7.3		162			288	
10 -	7.3						
11 -	7.3						

2 45 gpm

3 + 4 (180 gpm ea

7 + 8 90-110 ea

28-30

56 100 gpm ea

46<sup>th</sup>

1-26-68

# 7 well P.G. = 7.3

"

# 8 " " = 7.3

# 3506 well # 9

Deming Pump Co.

HP. 2.5 PH. = 3 cycle = 60

TYPE 25U Design B CODE H

CONT. RATING = 55% FRAME 2157

BEARING SIZES UPPER = 1-7210B7C

LOWER = 1-6207J

OUTLET OR EFF. 2"

SERIAL # 3718879 = ELECT. MOTOR U.S. ELECT. MOTOR

V. 220 - 14 amps RPM = 1750

" 440 - 7 "

HOLLOW SHAFT

PUMP SERIAL # 07-21542 FIG. # 4750

4" INT. COL. PIPE DWG. 2314

WELL # 6 - BLDG. # 203 - Same as # 5 well except serial #  
150 G.P.M.

HP = 7.5 PH. = 3

TYPE W/N RR SCU 208 cycle = 60 JOHNSTON TURBINE PUMP

V. 220/440 RPM = 1800 u.

FRAME = 284-P AMPS = 10 = HI - 20 = LO

SERIAL # 2525427

RATING = 40% CODE = G

DESIGN = B SHOP # = N.C.M. 110

The first part of the report  
 deals with the general  
 situation of the  
 country in 1950.

The second part of the report  
 deals with the economic  
 situation of the  
 country in 1951.

The third part of the report  
 deals with the financial  
 situation of the  
 country in 1952.

The fourth part of the report  
 deals with the  
 situation of the  
 country in 1953.

WELL # 5 BLDG. # 129

SAME AS WELL # 6 EXCEPT SERIAL # 2525424

WELL # 4 BLDG. # 106

HP. = 15 PH. = 3 SERIAL # = 2363545 US. ELECT. MOTOR  
TYPE = CFU - MRR, CYCLE = 60 RPM = 1800  
V. = 208/416 AMP. = 21.1 = HI - 42.3 = LO  
FRAME = 326-P RATING = 40% CODE = F  
DESIGN = B SHOP # PUMP = 29049 LAYNE PUMP.

WELL # 3 BLDG. 210

SAME AS # 4 EXCEPT SERIAL # 2363551

SHOP PUMP # 29048 LAYNE

WELL # 2 BLDG. # 1002

HP. = 5 PH. = 3 TYPE = SCW W/N RR V. = 208/416  
FRAME = 254 SERIAL # 2401620 CYCLE = 60 RPM = 1800  
AMP. = 7.4 = HI 14.8 = LO RATING = 40% CODE = H  
DESIGN = B SHOP # = 29956 LAYNE PUMP

1900

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WELL # 5 BLDG # 129

SAME AS WELL # 6 EXCEPT SERIAL # 2525424

WELL # 4 BLDG # 104

HP. = 15 PH. = 3 SERIAL # = 2363545 U.S. ELECT. MOTOR

TYPE = CFU - MRR. CYCLE = 60 RPM = 1800

V. = 208/416 AMP. = 21.1 = HI - 42.3 = LO

FRAME = 326-T RATING = 40% CODE = F

DESIGN = B SHOP # PUMP = 29049 LAYNE

WELL # 3 BLDG. 210

SAME AS # 4 EXCEPT SERIAL # 2363551

SHOP PUMP # 29048 LAYNE

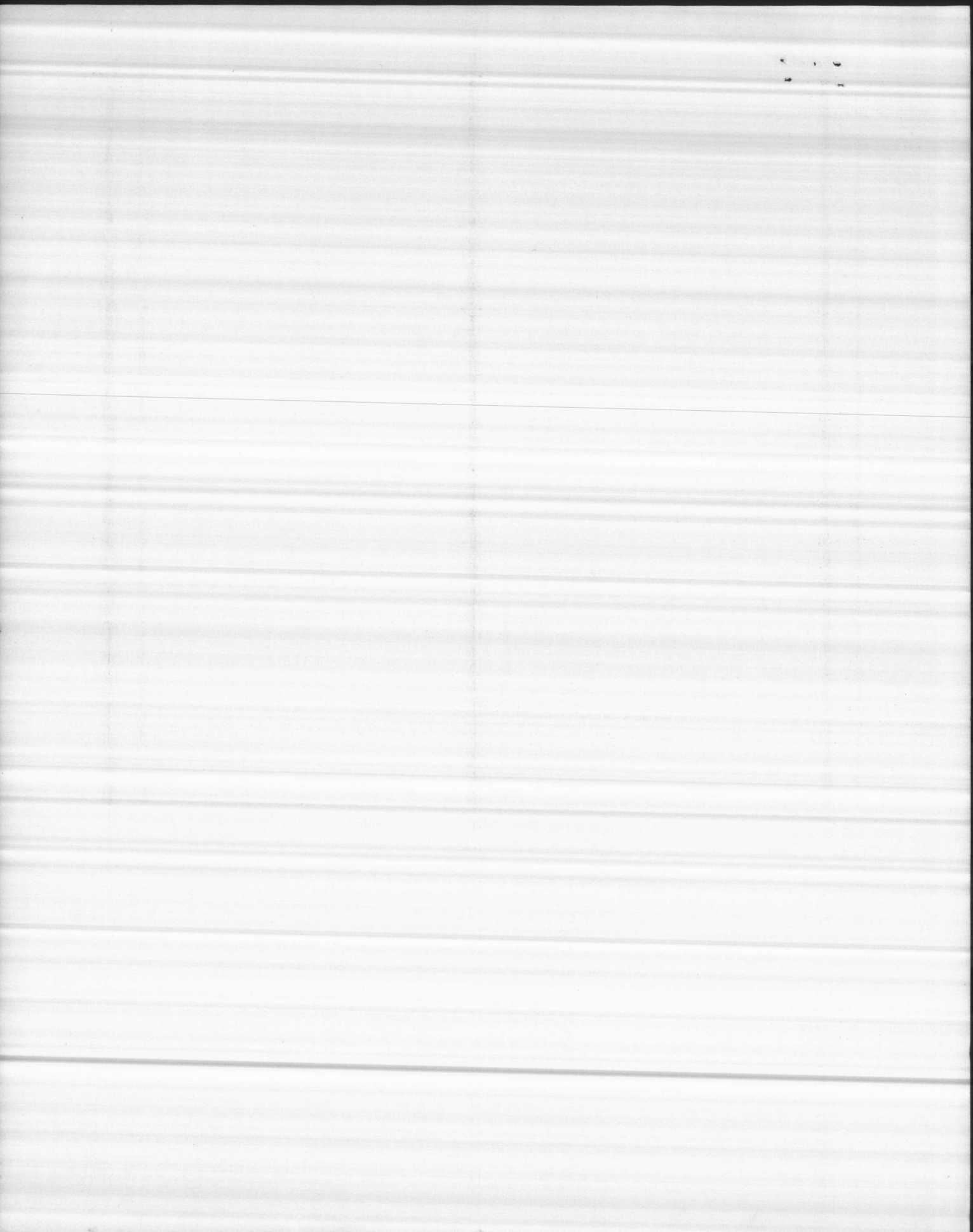
WELL # 2 BLDG # 1002

HP. = 5 PH. = 3 TYPE = SCW W/N RR V. = 208/416

FRAME = 254 SERIAL # 2401620 CYCLE = 60 RPM = 1800

AMP. = 7.4 = HI 14.8 = LO RATING = 40% CODE = H

DESIGN = B SHOP # = 29956 LAYNE PUMP



Reming Pump Co.

HP. 2.5 PH. = 3 cycle = 60

TYPE 2JU Design B CODE H

CONT. RATING = 55% FRAME 2157

BEARING SIZES UPPER = 1-7210B7C

LOWER = 1-6207J

OUTLET OR EFF. 2"

SERIAL # 3718879 = ELECT. MOTOR U.S. ELECT. MOTOR

V. 220 - 14 amps RPM = 1750

" 440 - 7 "

HOLLOW SHAFT

PUMP SERIAL # 07-21542 FIG. # 4750

4" INT. COL. PIPE DWG. 2314

WELL # 6 - BLDG # 203

HP = 7.5 PH. = 3

TYPE W/N RR SCU 208 cycle = 60 JOHNSTON TURBINE PUMP

V. 220/440 RPM = 1800 u.

FRAME = 284-P AMPS = 10 = HI - 20 = LO

SERIAL # 2525427

RATING = 40% CODE 20

DESIGN = B SHOP # = N.C.M. 110



		S/L	7/2	D. D.	Press
# 2	well =	48'	80'	32'	71"
# 3	" =	7'	12	5'	52 "
# 4	" =	12'	19'	7'	52 "
# 5	" =	NO AIR LINE (BROKE OFF)			
# 6	" =	<del>38</del> 9'	<del>37</del> 13'	4'	48 "
		altitude gauge			
# 7	" =	<del>37</del> 21'	<del>37</del> 34'	13'	26 "
# 8	" =	<del>50</del> 25'	<del>33</del> 42'	17'	34 "

62A15462

223.7

~~223.7~~

314.40

233.49

---

80.91

1-16-68  
Check on wells

# 7 + 8 wells on = 320 GPM

# 7 = 170 GPM - Press = 16"

# 8 = 150 " - " = 18"

+ # 5 well on = 425 GPM

# 5 " = 155 GPM - Press =

# 7 " = 145 - " - " = 20"

# 8 " = 125 - " - " = 22"

# 2, 3, 4, 5, 6, 7 + 8 on = 705 GPM

# 7 = 70 - GPM - Press = 34"

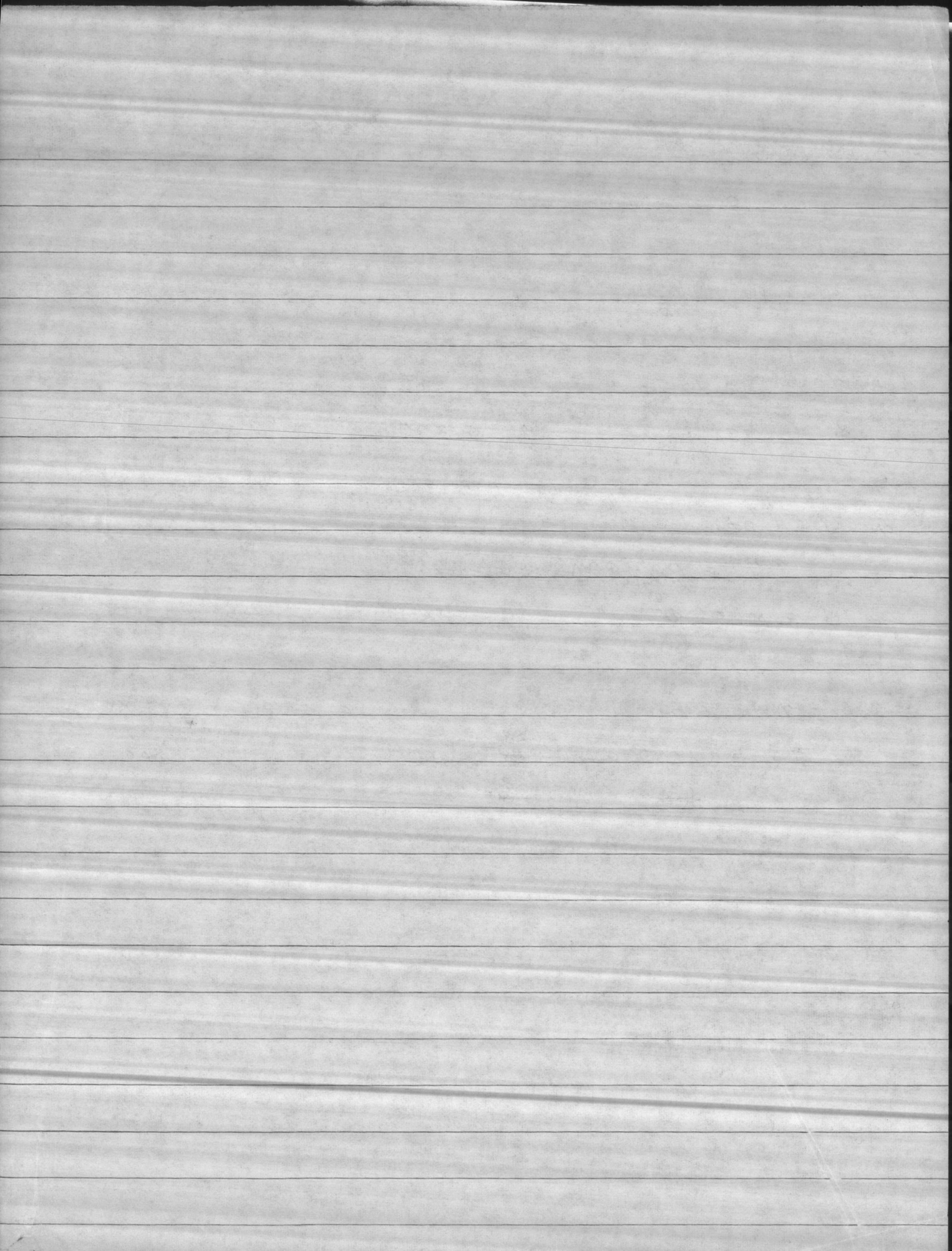
# 8 = 45 - " - " = 36"

# 2, 3, 4, 7 + 8 on

# 7 = 105 GPM - ~~28~~<sup>28</sup>" Press

600 GPM

# 8 = ~~115~~<sup>90</sup> " - ~~28~~<sup>28</sup>"





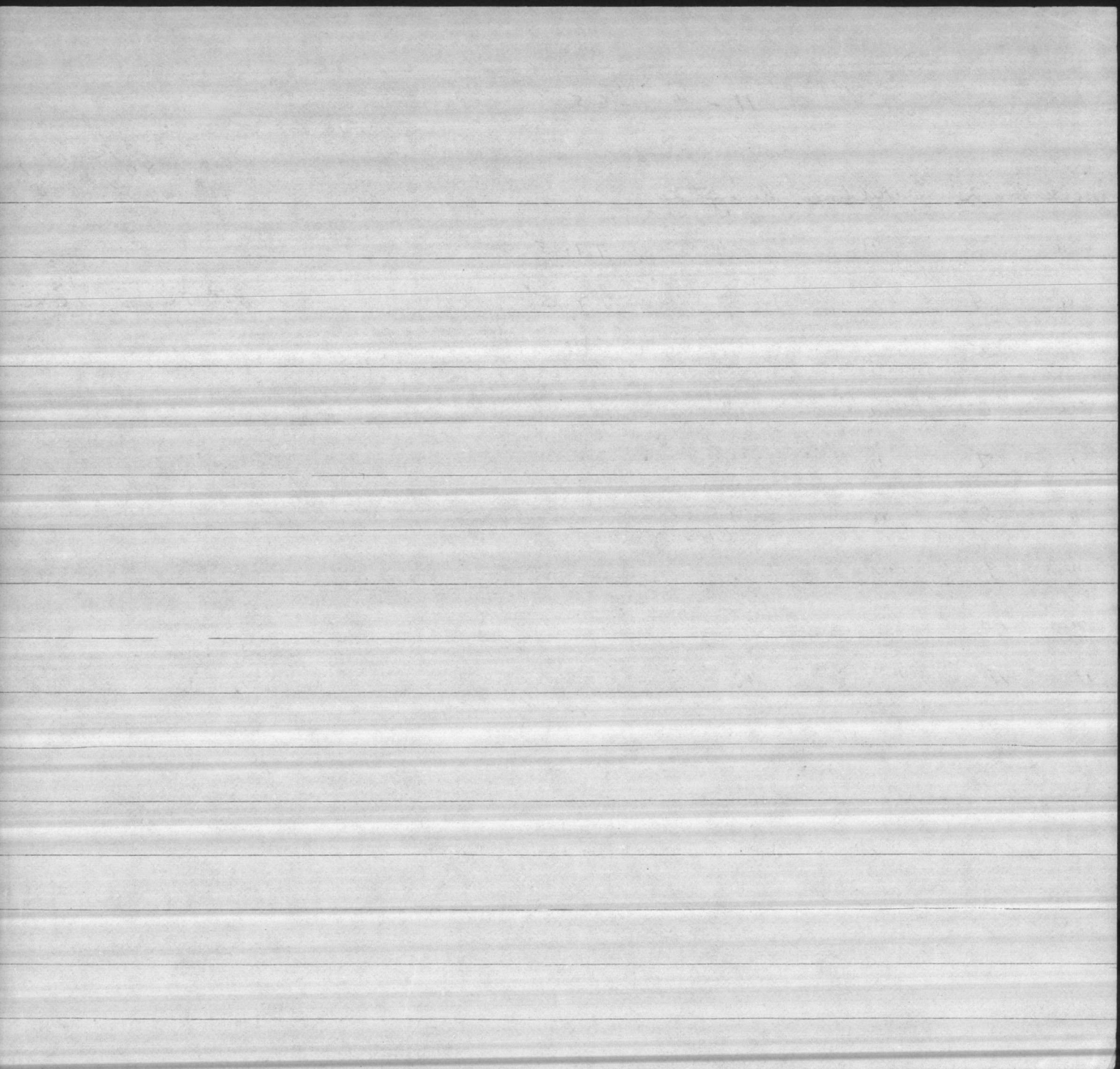
11-4-65

P<sub>1</sub> 70# - 45' - 35'  
80' S. " → R. level

well # 2 airline length

"	3	"	"	77.5'
"	4	"	"	77.5'
"	5	"	"	
"	6	"	"	
"	7	"	"	
"	8	"	"	
"	9	"	"	
"	10	"	"	
"	11	"	"	

51# Press 2026  
S. level -14'  
- R. level



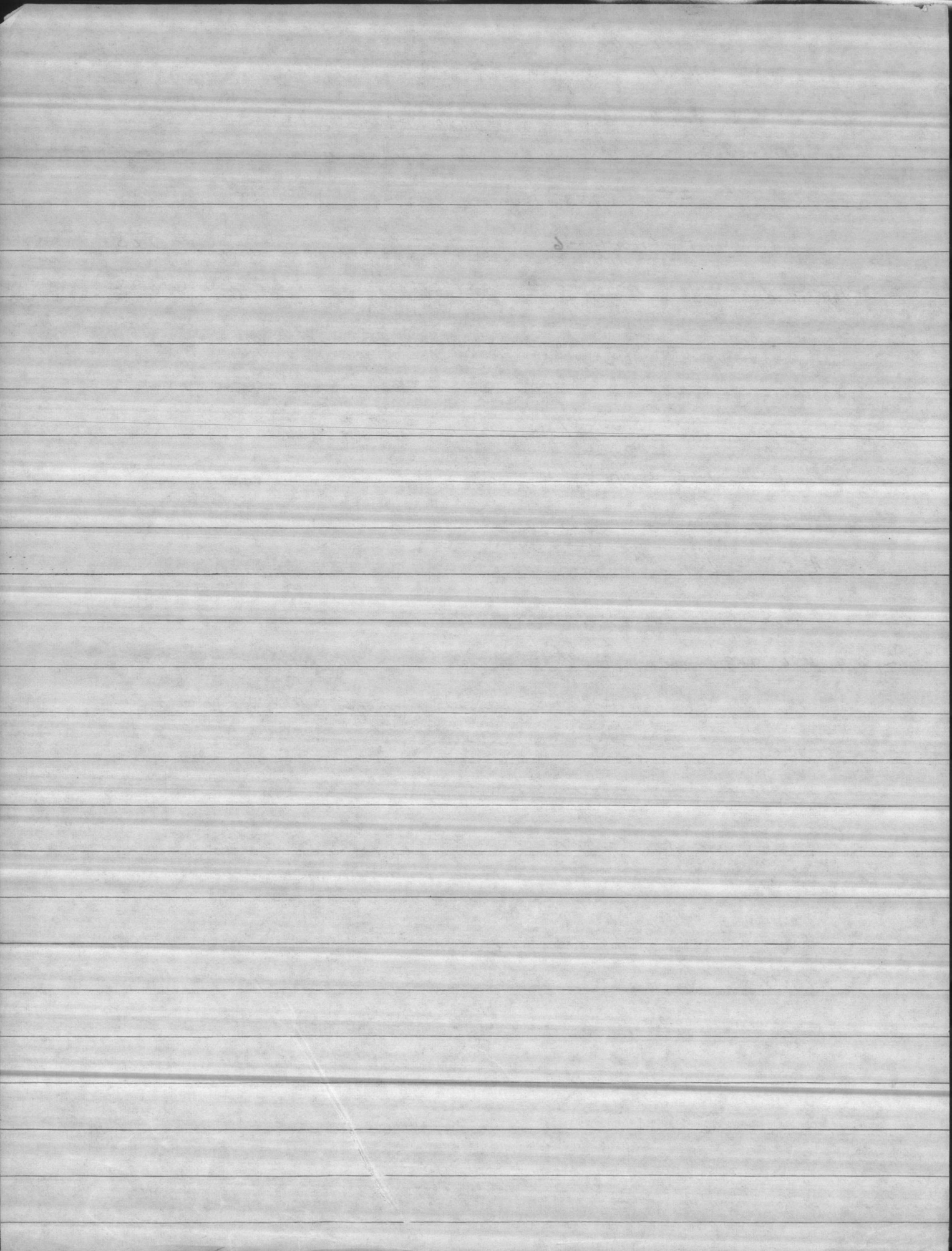
1-16-68  
check on wells

	GPM		
# 7 + 8 wells on	170 -	150	
Press. was 16" #7 (18" #8)			= 320 GPM
+ #5 = 155 GPM)	"=145 -	"=125	= 425 "
+ 2, 3, 4 + 6			= 705 "
# 2, 3, 4, 7 + 8			= 600 "

# 7 + 8 wells on + #5 (Press. on 7 = 20" #8 = 22")

# 7 = 145 GPM  
# 8 = 125 "  
# 5 = 155 "

2, 3, 4, 5, 6, 7 + 8 on = P = # 7 = 34" = 70 GPM  
P = # 8 = 36" = 45 "



market elect. heater  
10-10-65

# 7 well = 5001 (50') 26# Press on G.  
54' P.L.  
44' S.L. off 10" 10' drawdown

# 8 well = 5009 (75') 26# P. on G.  
50' P.L.  
34' S.L. off 10" 16' drawdown

# 3 well 50# P. on G.  
13' P.L. - 4' drawdown  
9' S.L.

# 4 well 51# P.  
20' P.L.  
14' S.L.  

---

6' drawdown

# 2 well 70# P.  
80' = P.L.  
45' = S.L.  

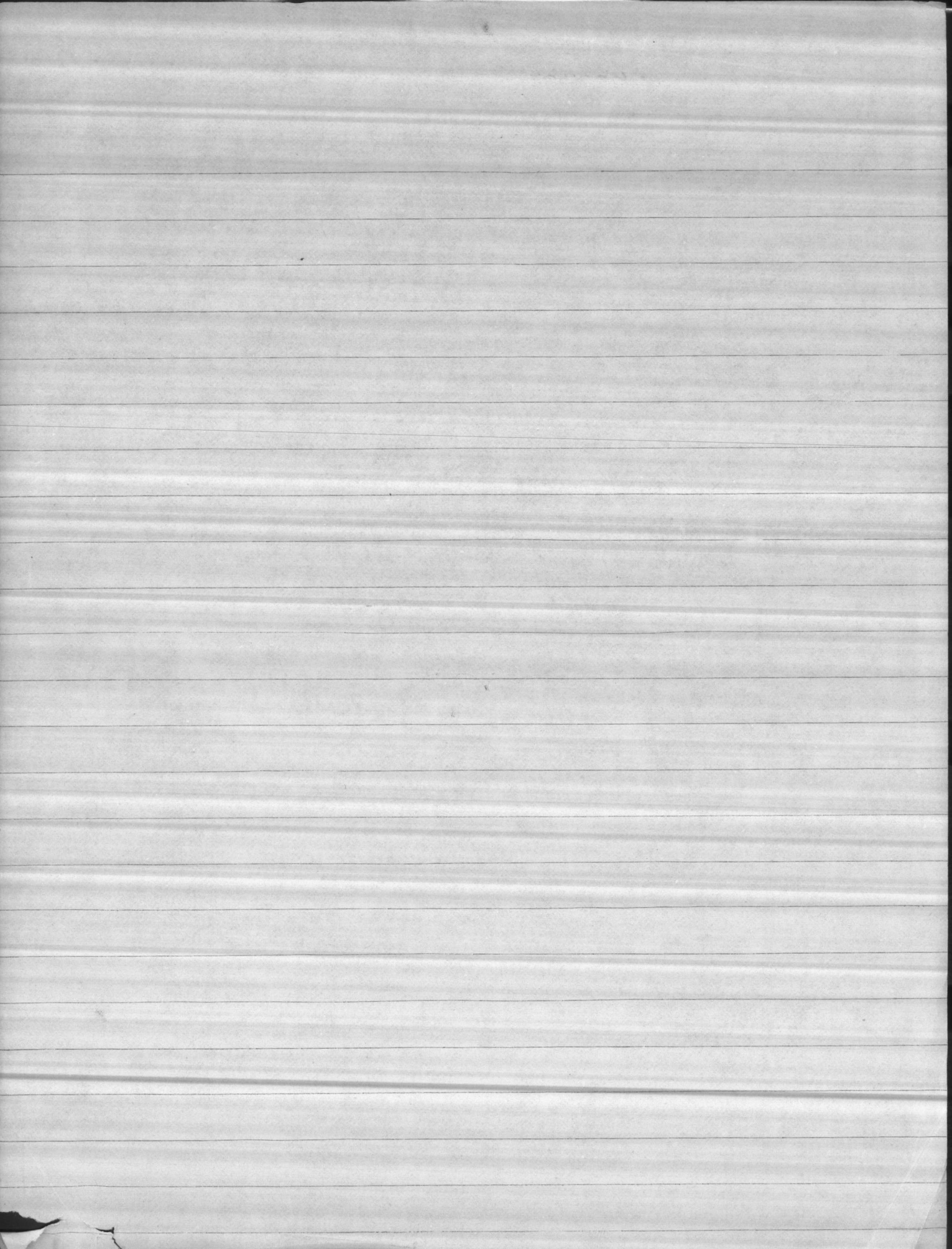
---

35' drawdown

# 6 well  
29' = P.L.  
27' = S.L.  

---

2' drawdown

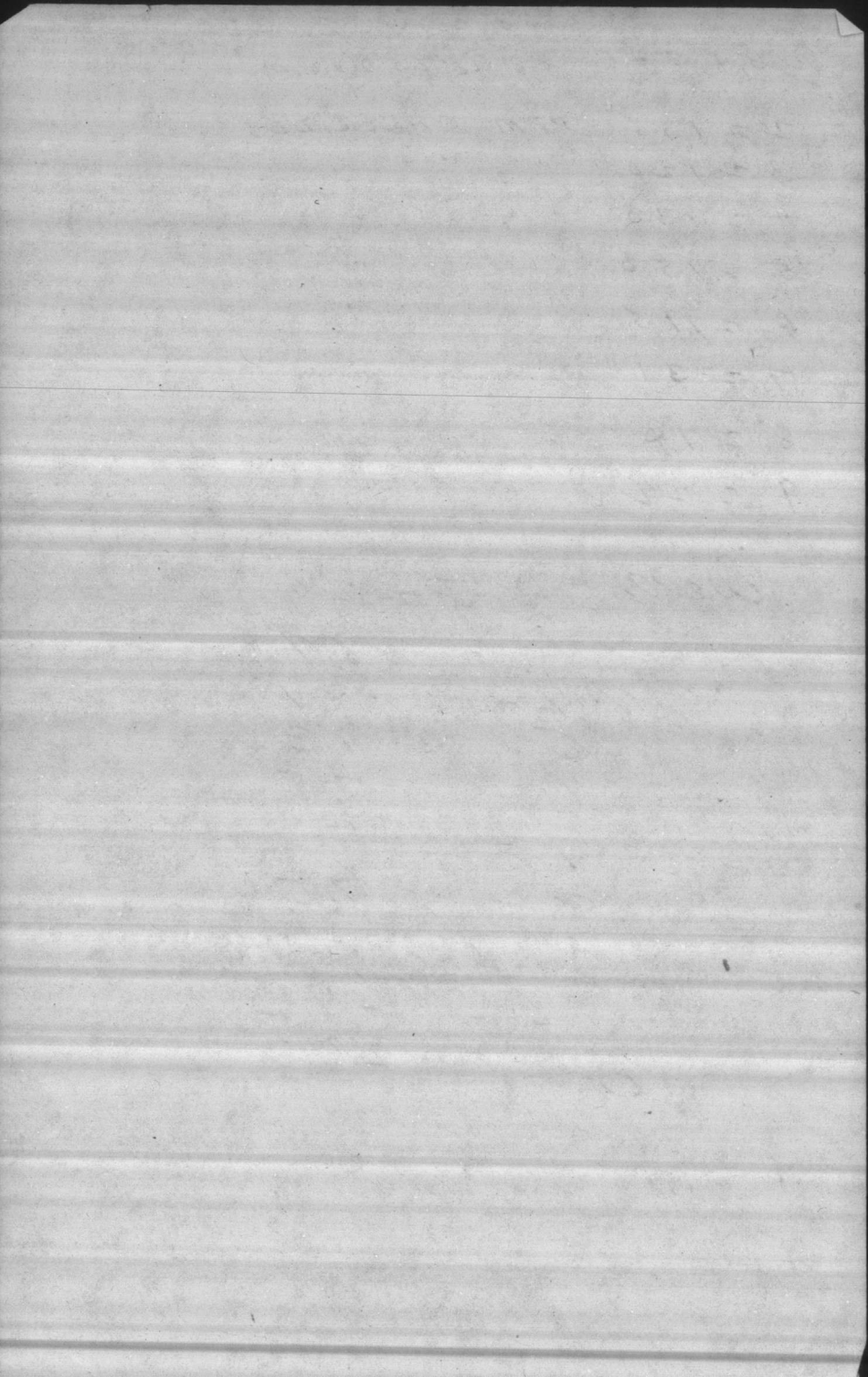


6-26-68 samples run

2, 3, 4, 5 & 6 up to 150 P.P.M.

2 = 135	PPM	CHLORIDES
3 = 120	"	"
4 = 130	"	"
5 = 150	"	"
6 = 115	"	"
7 = 31	"	"
8 = 14	"	"
9 = 22	"	"

Wells. # 2 - PH - 7.3  
3 - " - 8.4  
4 - " - 8.4  
5 - " - 7.3  
6 - " - 7.5  
7 - " - 7.3  
8 - " - 7.5  
9 - MACS 5 - 7.3  
10 - " - 7.3  
11 - " - 7.3





well #5 Bldg 131 too high in chlorides  
to use 450 PPM +

Well #3 Bldg 210 chlorides 300 PPM

Wells not in operation

#2 abandoned

#3 too high in chlorides approx 300 PPM

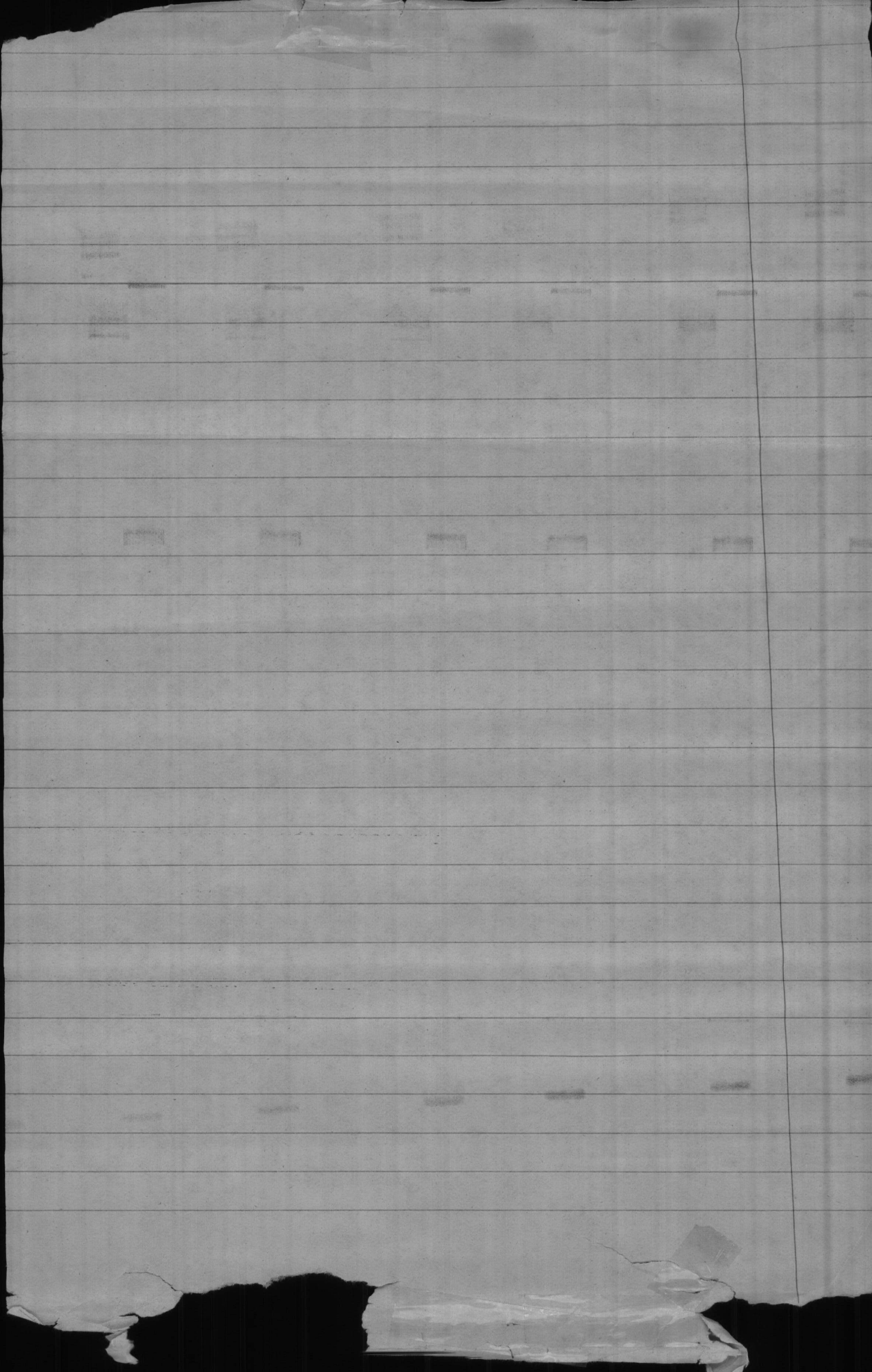
#5 " " " " " " " " 450 " "

#4 pump to be replaced with pump from #6 well  
well needs to be blown well + Pump designed  
to pump 150 GPM but is down to approx 75 GPM

#6 well was blown on Feb 21, 1974 pump from  
#5 well to be installed in this well  
Capacity approx 100 GPM

(7) well has a capacity of 100 GPM, when operated  
with 10 + 11 wells it cuts back to 25 GPM size 4"  
pump in good condition well drilled approx 1960

(8) well and pump same as #7 size 4"  
7+8 pumps seem to be plugged up or  
designed had pressure to pump

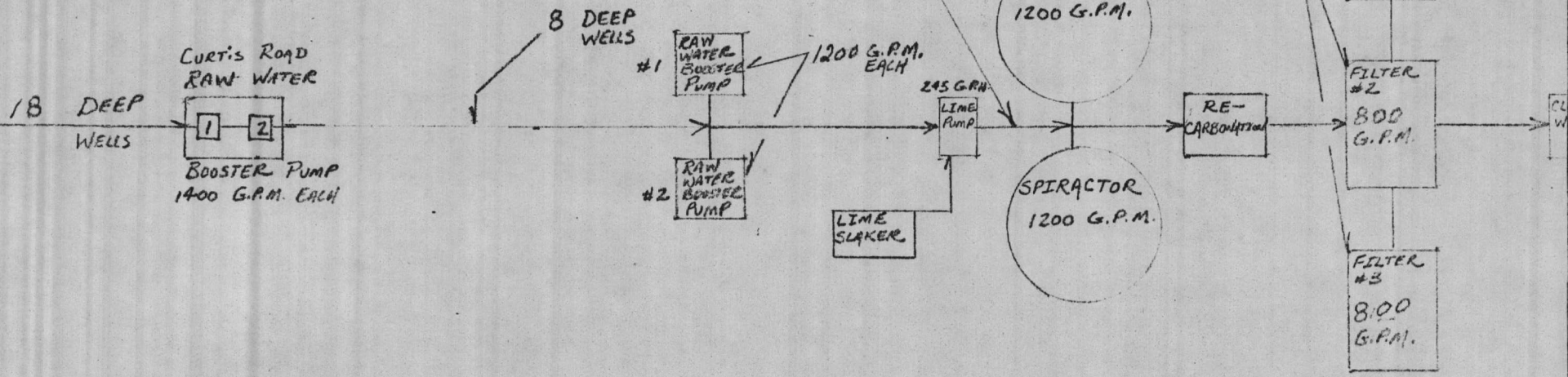


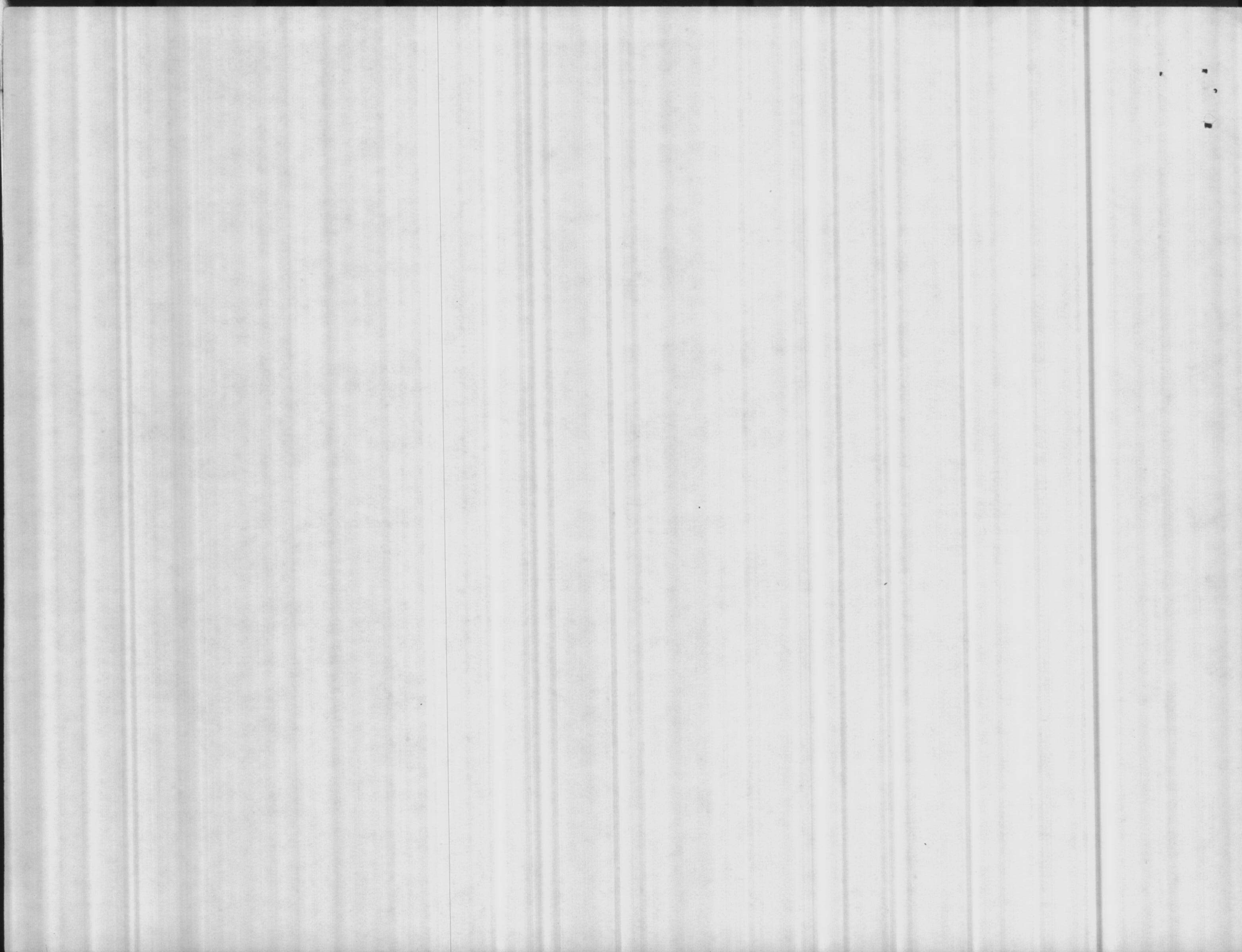
MARINE CORPS AIR  
CAPACITY 3.5 M.G.  
LIME SOFTENING

PRE-CHLORINATION

VARIABLE  
DECLINING  
RATE FILTERS

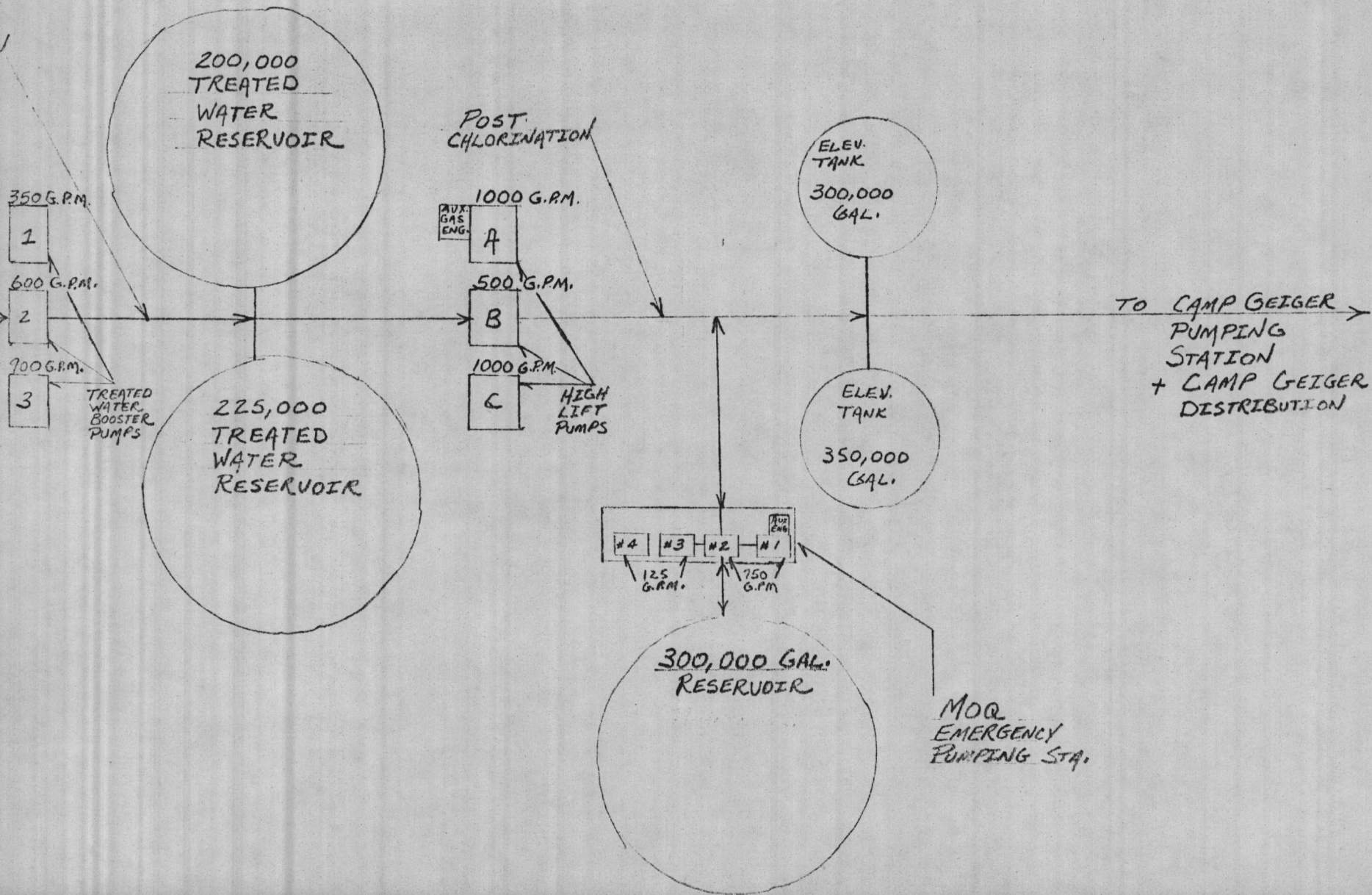
CHLORINATION

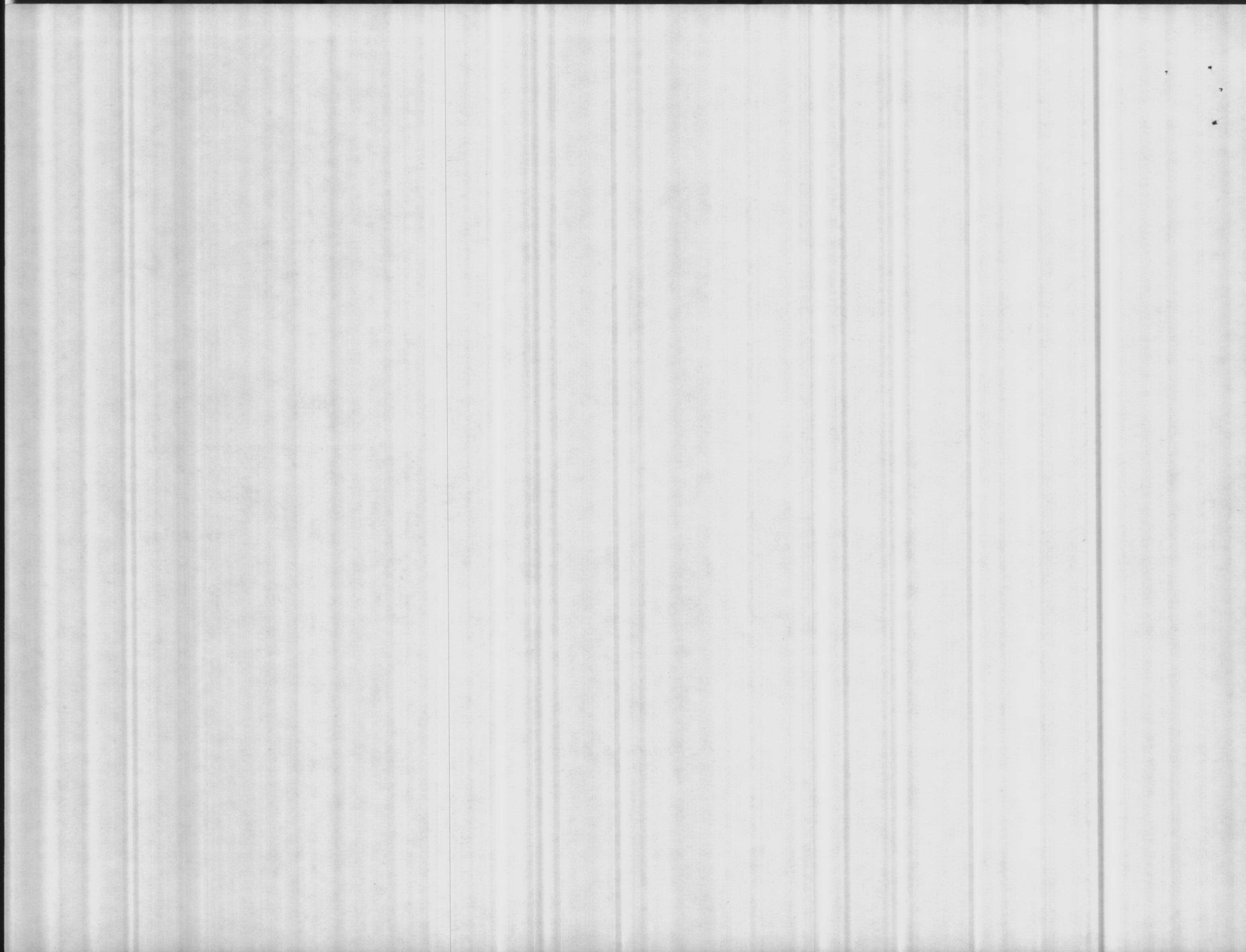




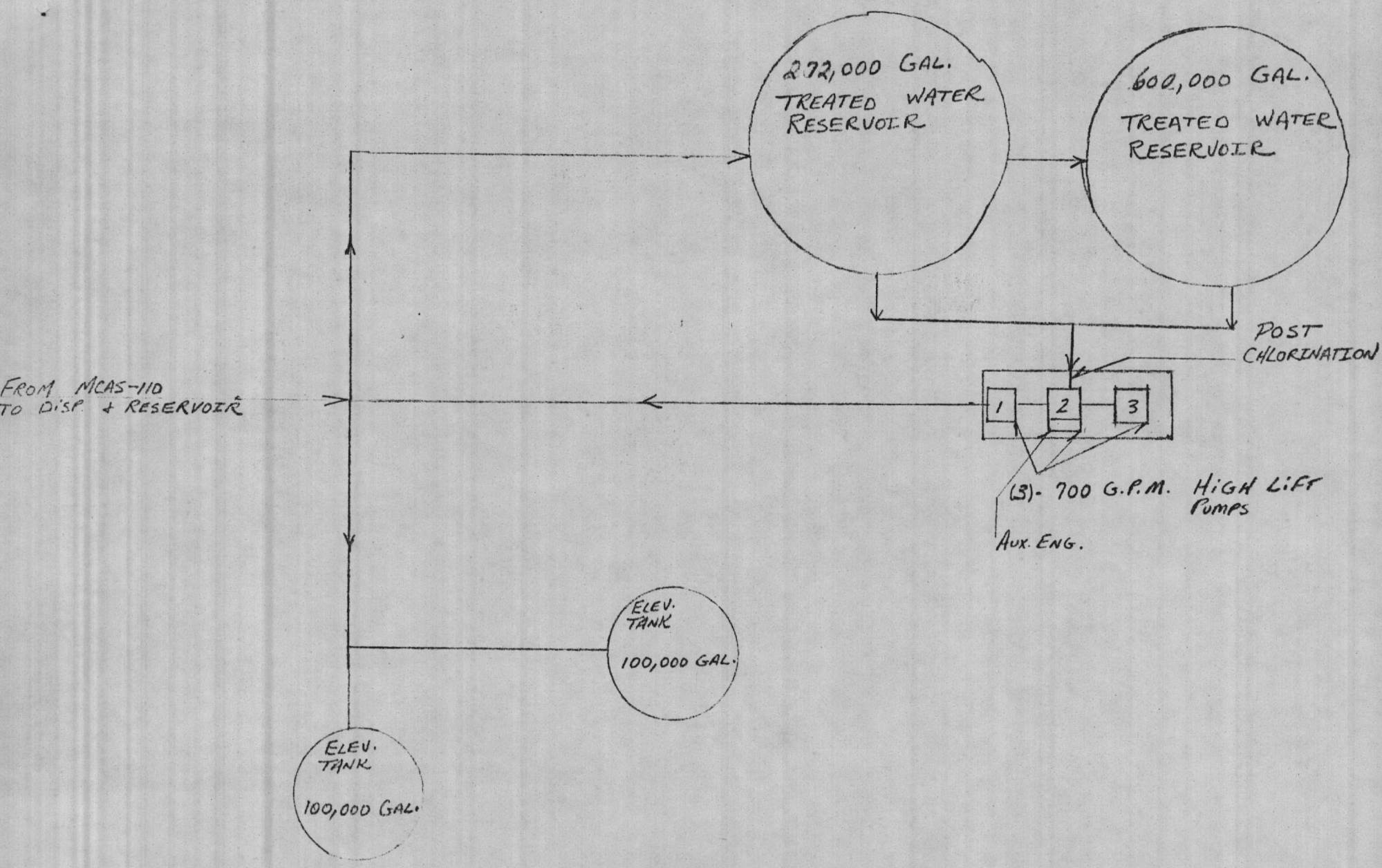
STATION - BLDG. MCAS-110

26 DEEP WELLS  
PUMPING PLT.





CAMP GEIGER PUMPING STATION  
TC-501



FROM MCAS-110  
TO DISP. + RESERVOIR

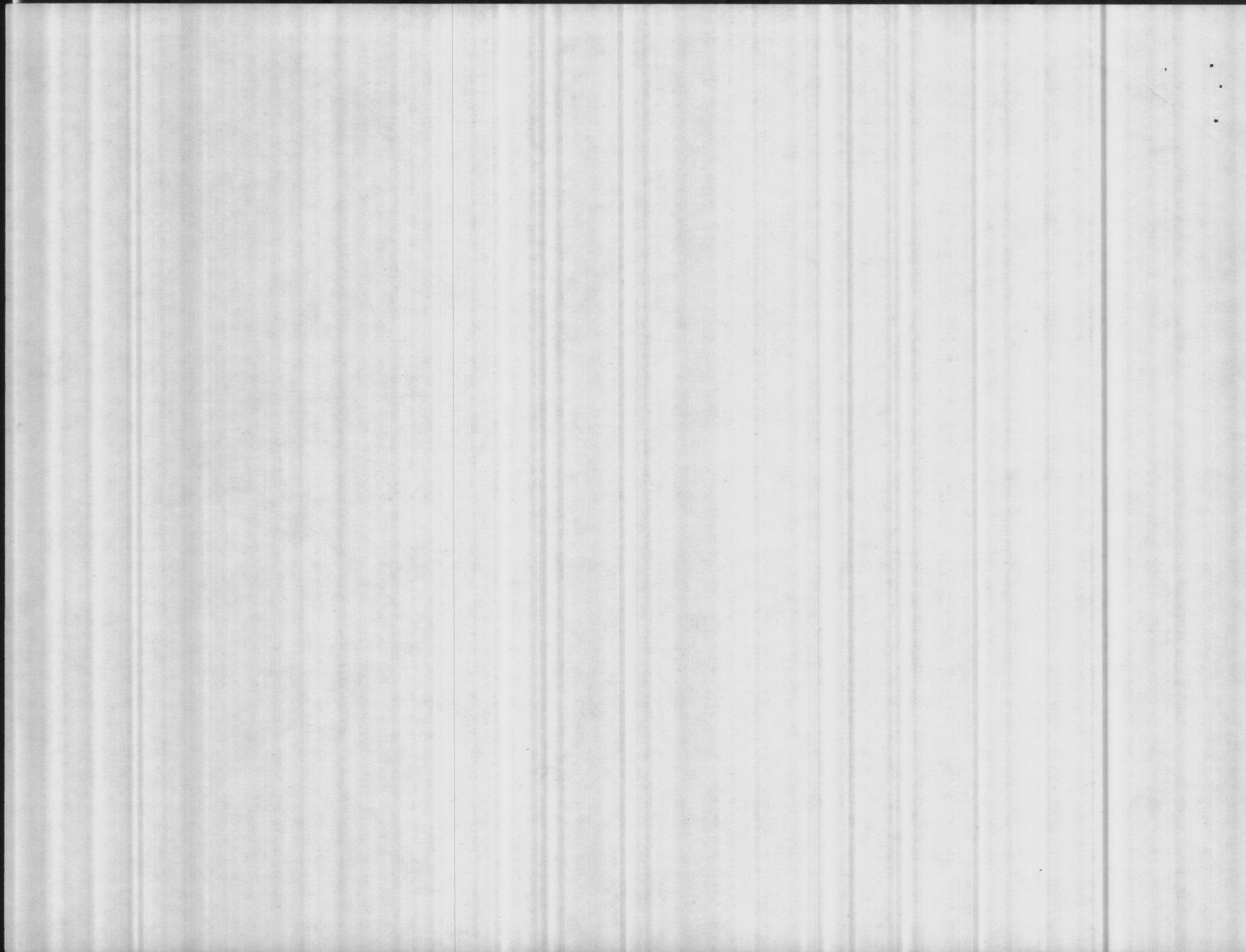




Table III C 3

## WELL SURVEY SHEET\*

Sheet No. 8DATE: 3-3-77

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)
MCAS-106	DRILLED	174'	16'	8"	5	12'	178	125
203	DRILLED	173'	23'	8"	4	6'	100	75
131	DRILLED	189'	23'	8"	4	5'	250	200
4140	DRILLED	UNKNOWN		8"	UNKNOWN	UNKNOWN	150	100
4150	DRILLED			5"			150	100
5001	DRILLED	193'	44'	8"	3	10'	100	75
5009	DRILLED		34'	8"	3	16'	150	100
SAS								
161	"	200					200	200
163	"	240					200	100
164	"	220					200	150
165	"	220					200	150
166	"	220					200	150

WELL NO.	SPECIFIC CAPACITY (gpm/ft of drawdown)	PUMP HEAD (ft)	MOTOR H. P.	CHLORINATION (AMOUNT)	RESIDUAL CHLORINE (ppm)	AUXILIARY POWER (type)	DU FORM	
							710	686
MCAS-106	14.8		15.0					
203	16.7		7.5					
131	50.0		7.5					
4140			5.0					
4150	UNKNOWN	UNKNOWN	5.0					
5001	10.0	75'	5.0					
5009	9.4	75'	5.0					

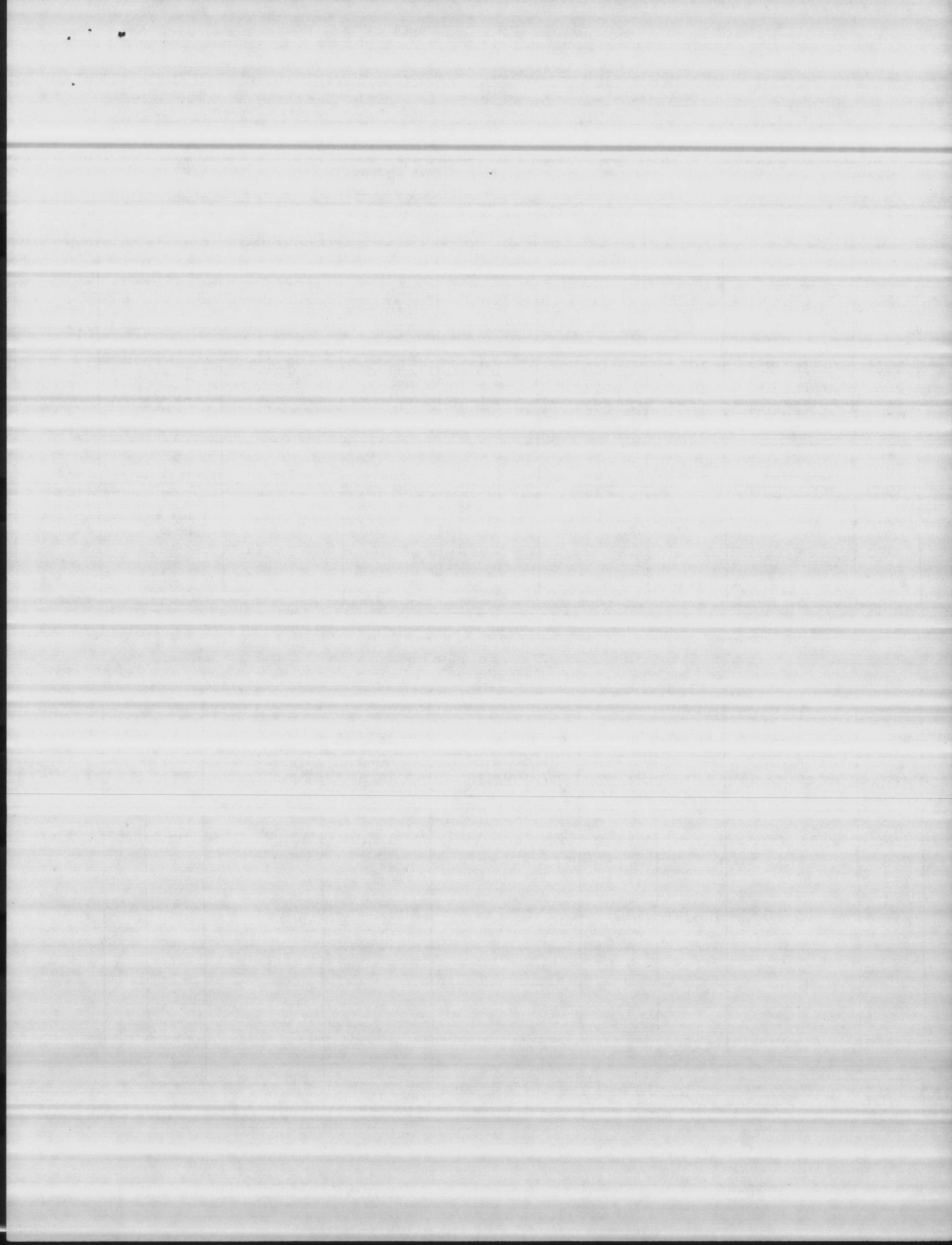


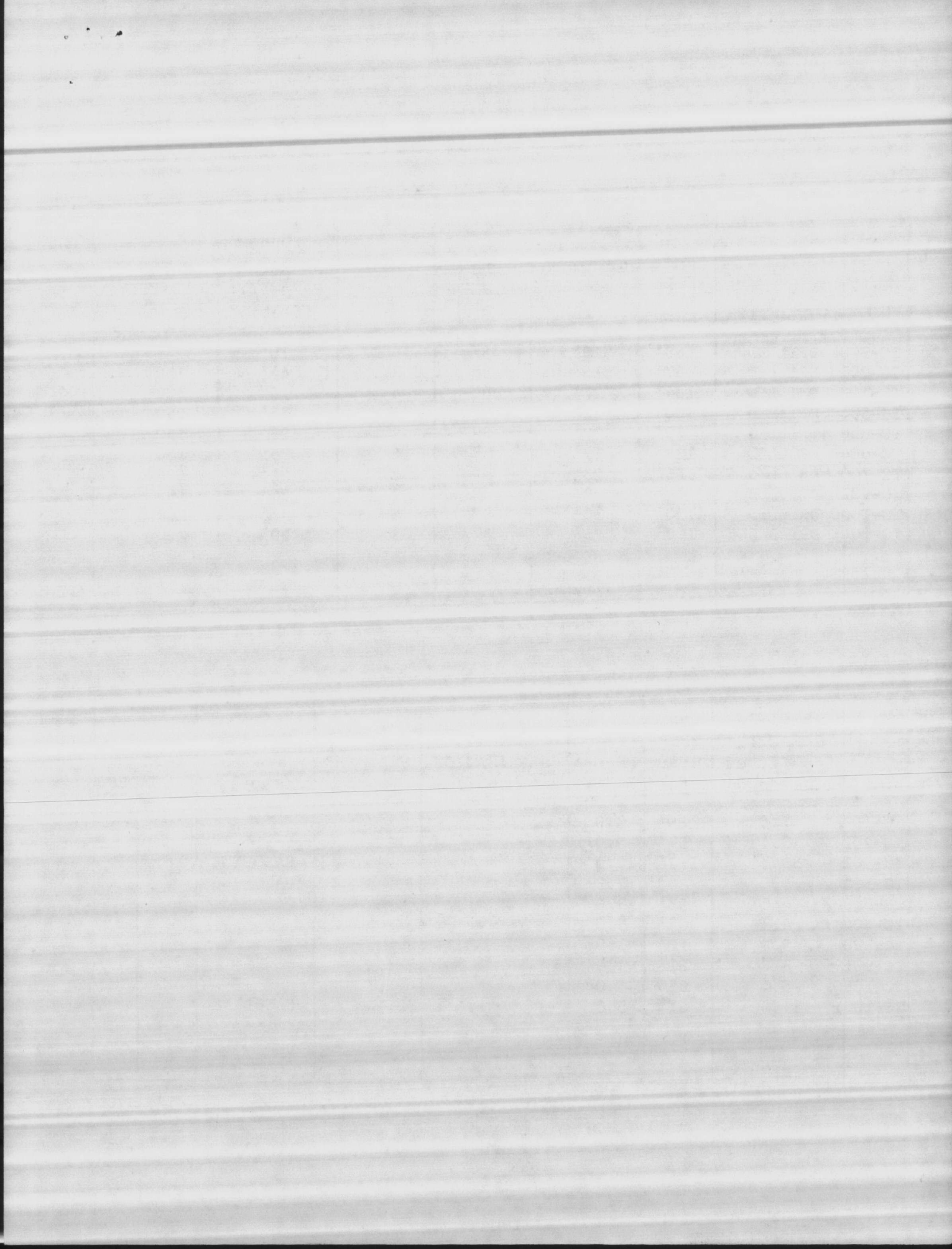
Table III-C 3

## WELL SURVEY SHEET\*

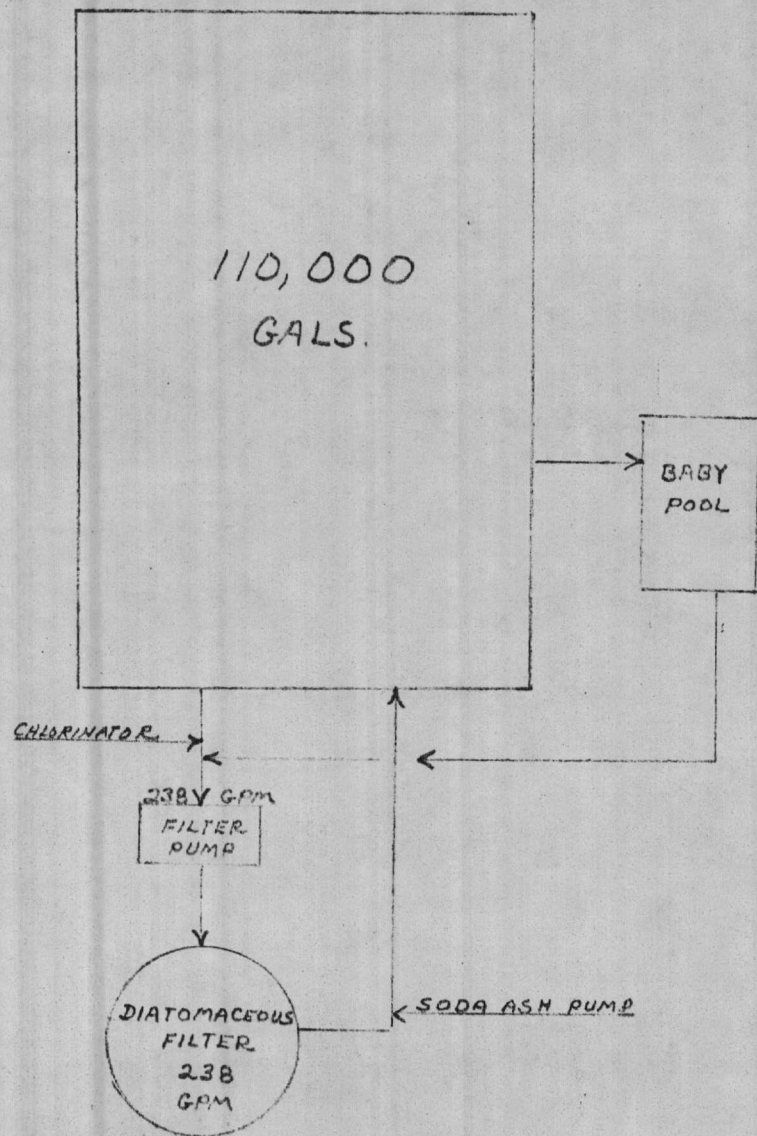
Sheet No. 7DATE: 3-3-77

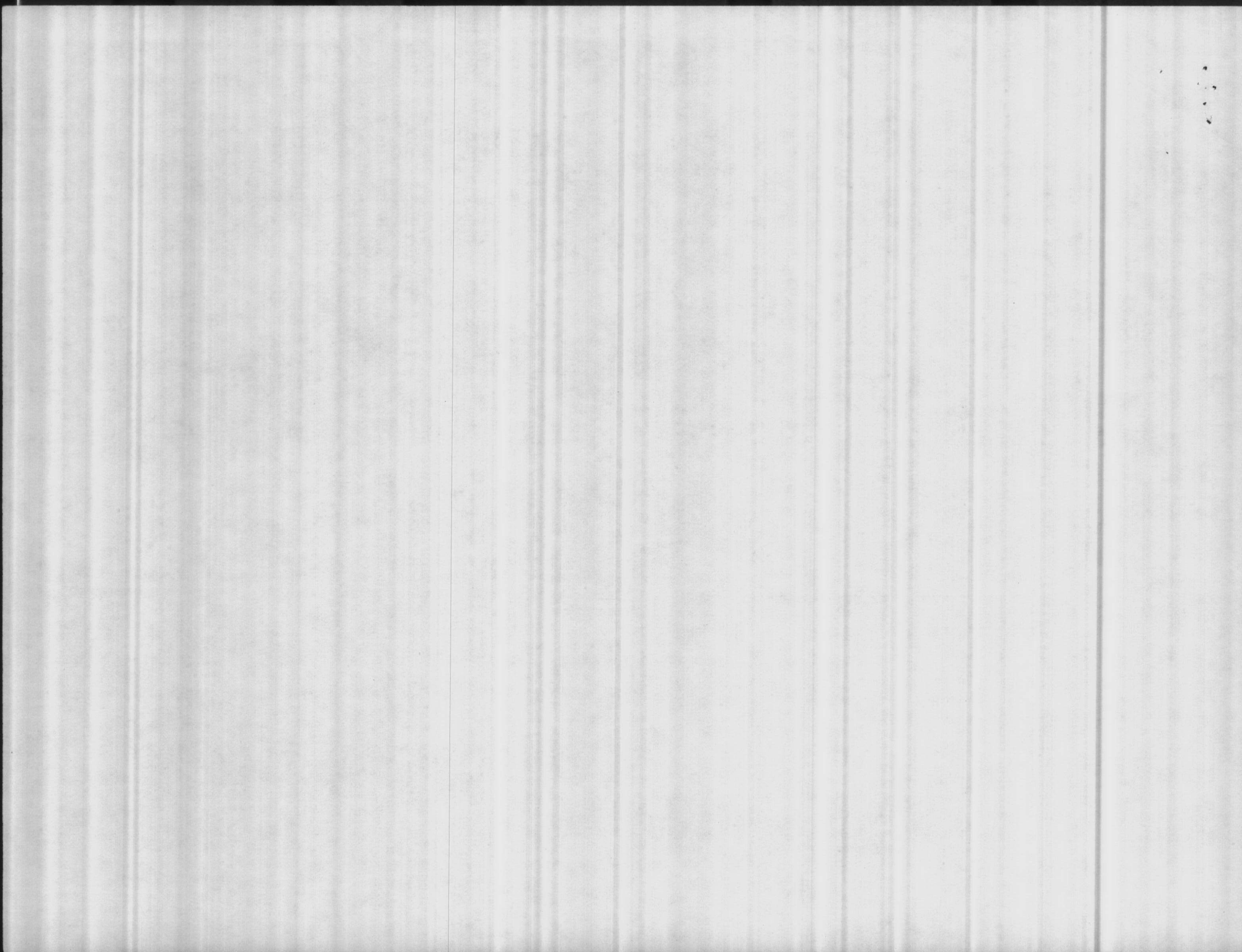
WELL NO.	WELL TYPE	DRILLED DEPTH ft.	STATIC LEVEL (ft)	CASING SIZE (in.)	STAGES	DRAWDOWN AT RATED CAPACITY (feet)	RATED CAPACITY (gpm)	PRESENT CAPACITY (GPM)
TC-100	DRILLED	66'	19'	8"	6	10'	75	75
TC-201	DRILLED	67'	15'	8"	3	44'	150	100
TC-502	DRILLED	184'	27'	8"	4	9"	300	250
TC-504	DRILLED	100'	22'	8"	3	38'	250	150
TC-600	DRILLED	70'	8'	8"	3	28'	130	75
TC-604	DRILLED	138'	17'	8"	4	35'	150	100
TC-700	DRILLED	76'	23'	8"	4	21'	125	75
TC-901	DRILLED	76'	9'	8"	7	26'	100	75
TC-1000	DRILLED	170'	10'	8"	4	37'	200	150
TC-1001	DRILLED	100'	25'	8"	5	20'	220	150

WELL NO.	SPECIFIC CAPACITY (gpm/ft of drawdown)	PUMP HEAD (ft)	MOTOR H. P.	CHLORINATION (AMOUNT)	RESIDUAL CHLORINE (ppm)	AUXILIARY POWER (type)	DD FORM	
							710	686
TC-100	7.5	80'	3.0					
TC-201	3.4	57'	5.0					
TC-502	33.3	112'	10.0			GASOLINE		
TC-504	6.6	66'	7.5			GASOLINE		
TC-600	4.6	58'	3.0					
TC-604	4.3	65'	5.0					
TC-700	5.9	70'	3.0					
TC-901	3.8	81'	3.0					
TC-1000	5.4	65'	5.0					
TC-1001	11.0	61'	5.0			GASOLINE		

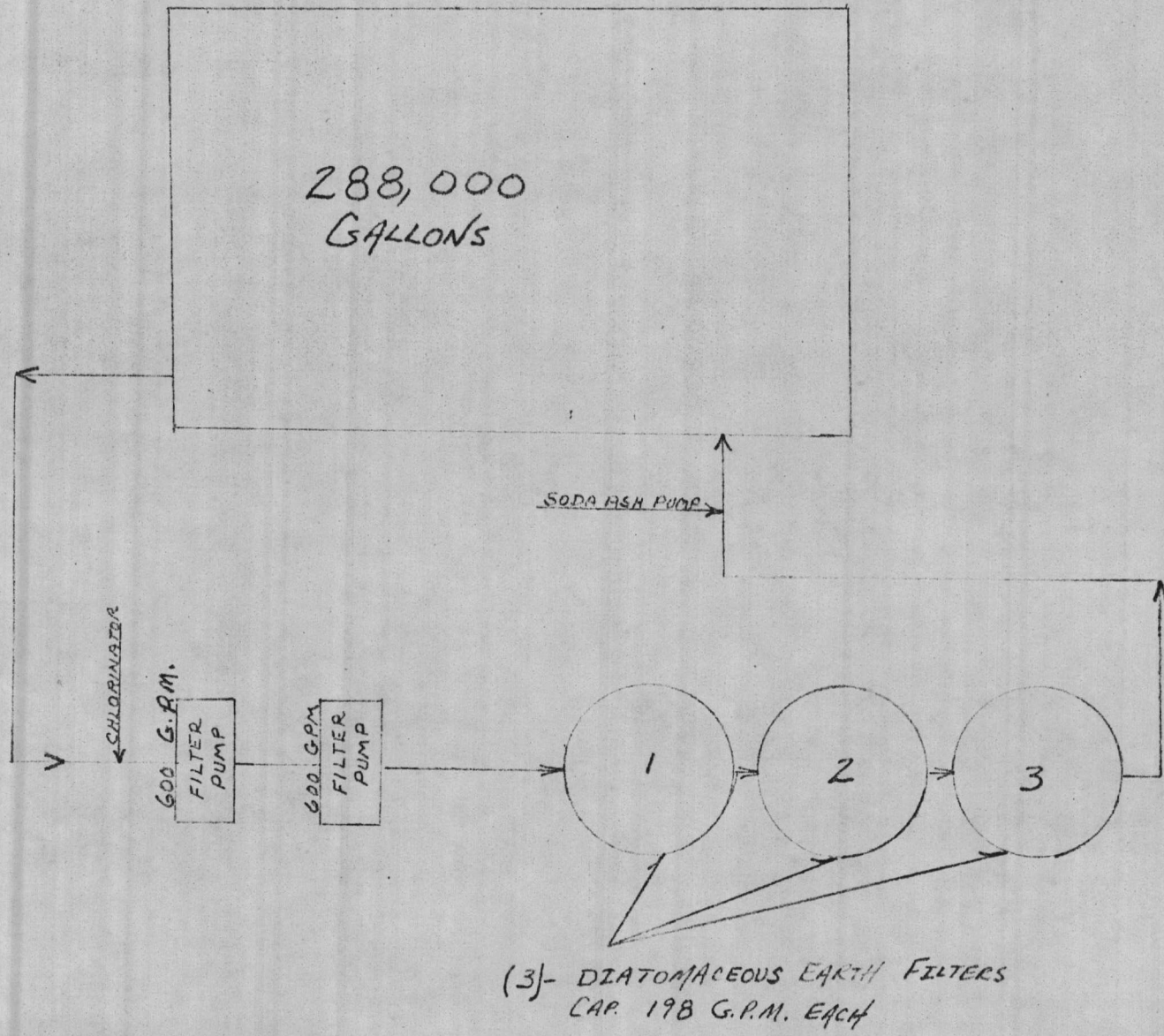


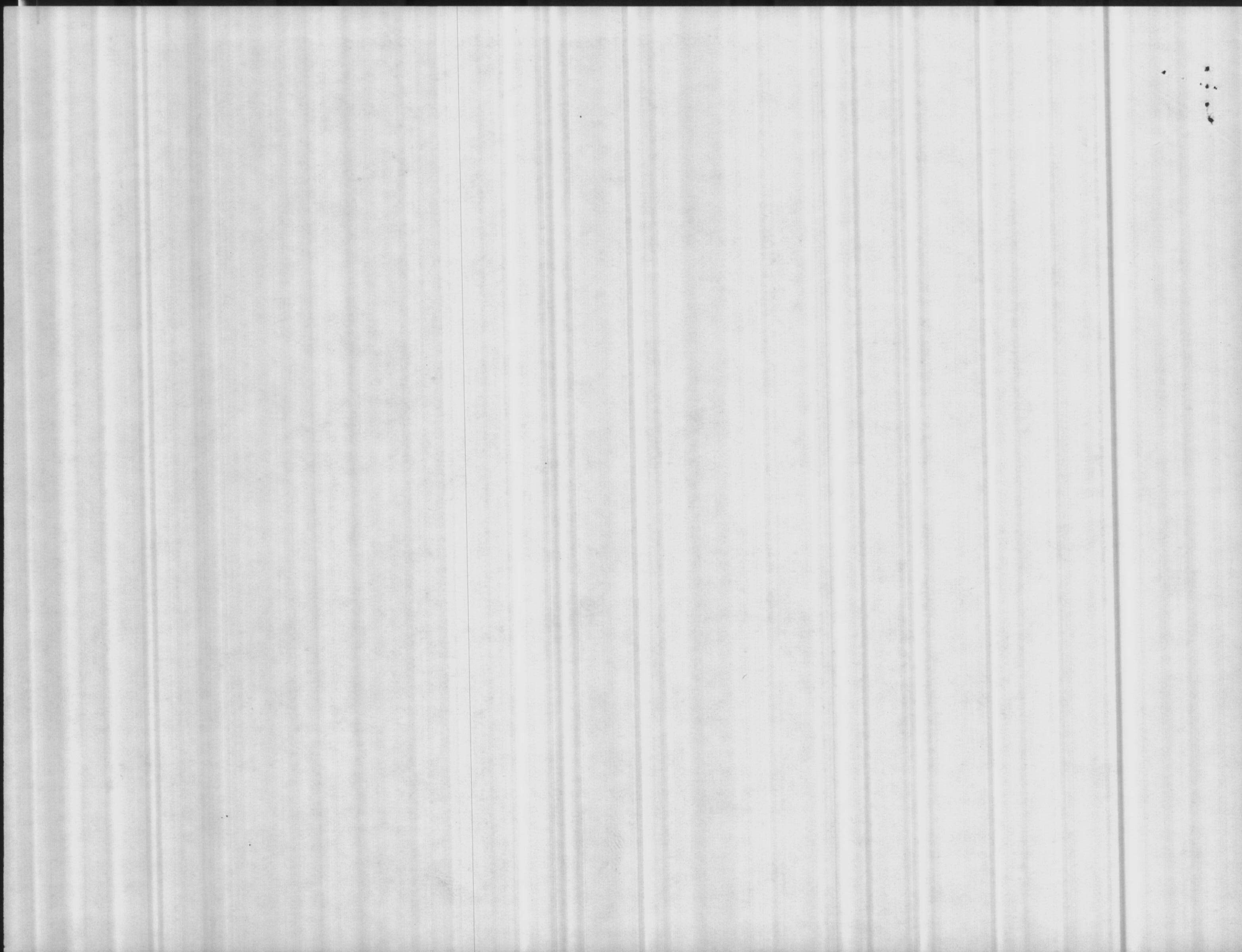
# MCAS OFFICERS POOL - BLDG. - 710





# MCAS ENLISTED POOL - BLDG. 204







Water Plant Bldg 110

Reservoir 225,000 # 108

" 200,000 # 107

Elevated tank # 310

" " # 4130

Emergency pump station 2003

" " reservoir #2002

Well #2 Bldg #

2 1002

3 210

4 106

5 131

6 203

7 5001

8 5009

9 3506

10 4140

11 4150

E Pool 204

O Pool 709

EMPLOYEE NUMBER EMPLOYEE NAME TYPE EMPLOYEE NUMBER T SHOP/WC J/O PREFIX J/O NUMBER ACTUAL HRS. HURLY. RATE T/CAT U/C T/S GEN H/C PREM.

EMPLOYEE NUMBER EMPLOYEE NAME TYPE EMPLOYEE NUMBER

# LABOR DISTRIBUTION

SHD C.P.N.C.  
FORM 909  
(REV. 7-60)

# CLOCKING COLUMNS

ELAPSED TIME  
STOP

SHOP/WC JOB ORDER PREFIX

JOB ORDER NUMBER

STD. HOURS

TENTHS ACTUAL HOURS

ACTUAL HOURS

EXTENSION HOURLY RATE

T/CAT-LABOR CL. TYPE STD. GEN. CODE

REPAIR PREMIUM SORT

SHOP/WORK CENTER PREFIX JOB ORDER NUMBER STANDARD HOURS

MON 1 2

TUE 1 2

WED 1 2

THU 1 2

FRI 1 2

SAT 1 2

SUN 1 2

ACTUAL HOURS

EXTENSION

RATE

T/CAT LABOR CLASS T. N. GEN. CODE

START

STOP

START

STOP

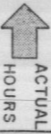
START

STOP

START

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

IRM E28188



# 7

$\frac{93}{3} = 31$

0 - 100 = 3 divisions

$\frac{6.5}{2} = 3.25$  gpm  
each mark

5 - 1 = each

100 - 150 = 2 divisions

each mark = 5 gpm



Well #8 Bldg # 509 pumping approx 25 GPM  
at 23 PSI 4" pump  
probably needs cleaning

Well #9 Bldg 3506 macis fire area  
independently operated in this area  
chlorinated at well

Well #10 Bldg 4140 pumping approx  
150 GPM @ 13 PSI

Well #11 Bldg # 4150 approx same as  
#10 well, both wells installed  
in 1970

wells 7, 8, 10 + 11 producing approx 480 GPM

