

File

CONTRACTOR'S SUBMITTAL TRANSMITTAL
5ND LANTDIV 4-4355/3 (Rev. 6/78)

CONTRACT NO. 82-C-4551	TRANSMITTAL NO.	DATE 12-6-83
PROJECT TITLE AND LOCATION Replacing three (3) Water Well Camp Lejeune NC Well N° BB-43		

FROM CONTRACTOR
EAST COAST CONSTRUCTION Co INC

TO
ROICC

<p align="center">CONTRACTOR USE ONLY</p> <p align="center">*List only one specification division per form.</p> <p align="center">List only one of the following categories on each transmittal form, and indicate which is being submitted</p> <p><input type="checkbox"/> Contractor Approved <input type="checkbox"/> OICC Approval <input type="checkbox"/> Deviation/Substitution For OICC Approval</p>	<p align="center">REVIEWER USE ONLY</p> <p align="center">**ACTION CODES</p> <p>A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledged. C-Comments R-Resubmit</p>
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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
	15201-7.3	24 hour Pumping Test	6	A	FKL.

RECEIVED

DEC 19 1983

ENWRIGHT ASSOCIATES

CONTRACTOR'S COMMENTS
**Well N° BB-43
Pump Test DATA**

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC		CONTRACTOR REPRESENTATIVE (Signature) RON ELLEN
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.

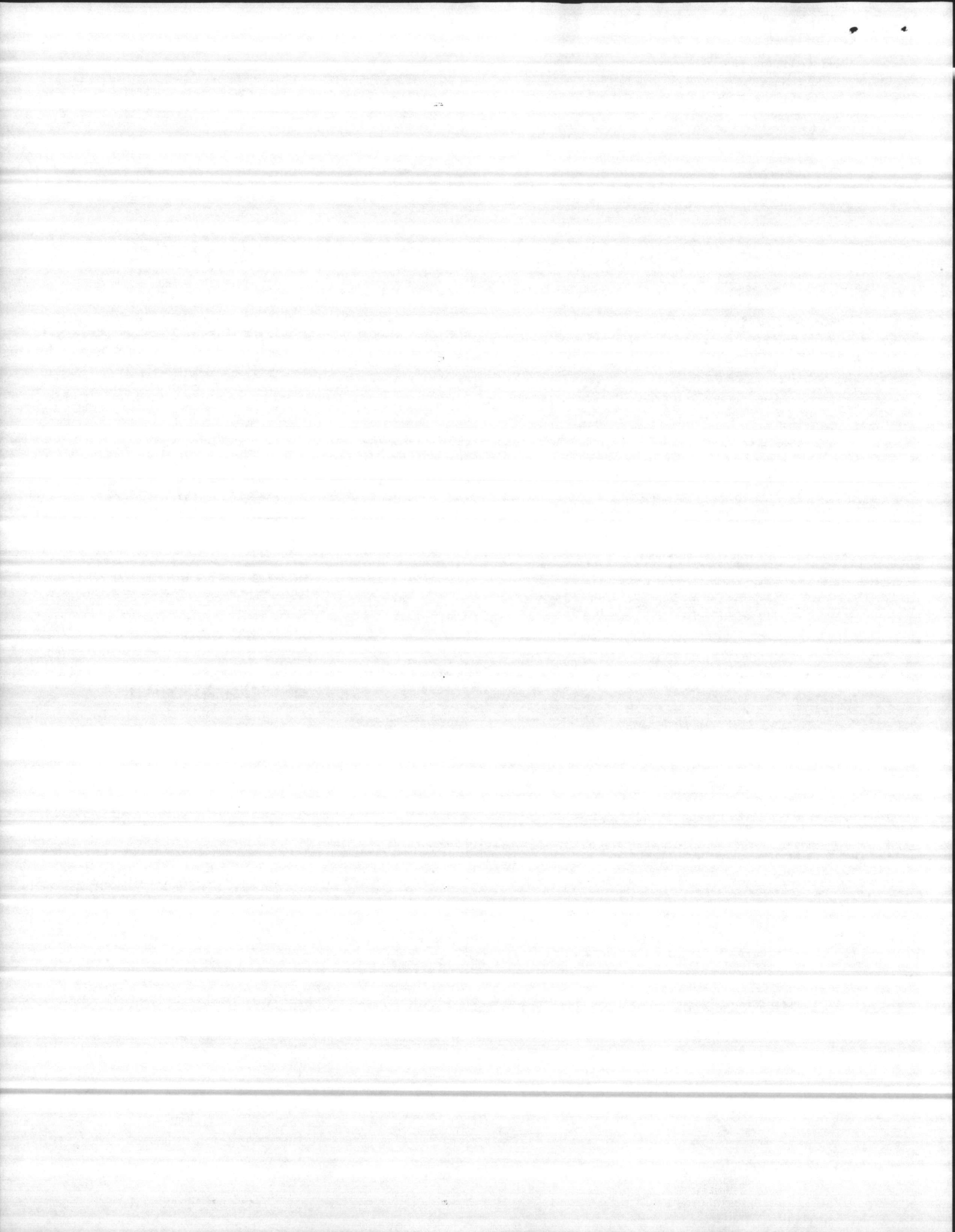
Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

Copies Filed 1-5-84

RECEIVED
R
ROICC
JAN 11 1984

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
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PUMPING TEST DATA

Wina Well & Pump Co.

Roger Thomas

Lejeune

Address:

No.: BB 43

Location: across blvd. from Steak House

County: Onslow

Observation Well Locations:

Airline Lengths: Pumped Well

Observation Wells

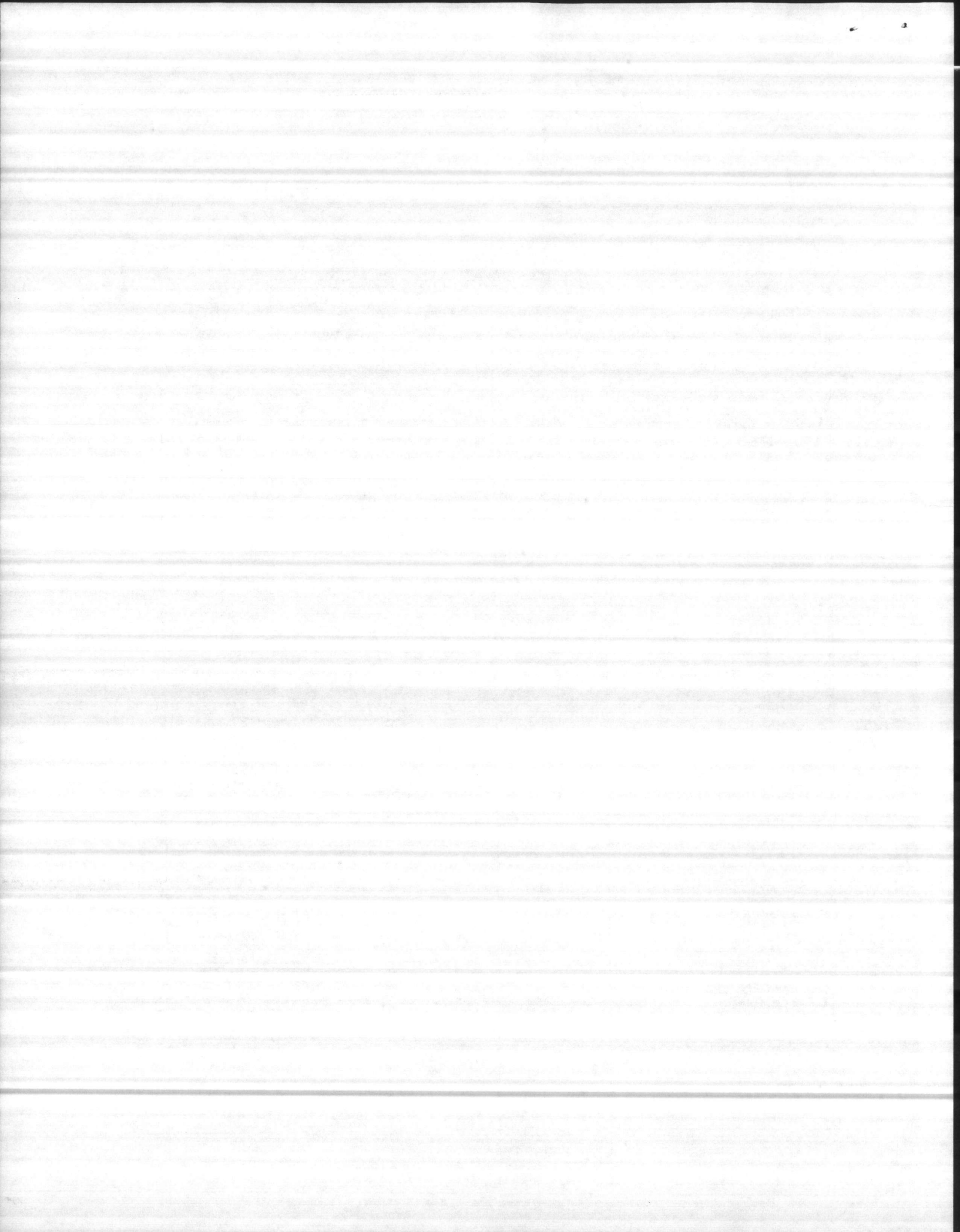
Remarks:

Pumping rate measured with: 3 x 4 orifice

Water levels measured with: electric tape

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
11/21/83							
12:50 PM						15' 5"	
1:00		13	151			15' 5"	
1:05	5 min.	"	"			62' 4"	
1:10	10	"	"			63' 0"	
1:15	15	"	"			68' 5"	
1:20	20	"	"			72' 8"	
1:25	25	"	"			75' 0"	
1:30	30	"	"			76' 0"	
1:35	35	"	"			77' 8"	
1:40	40	"	"			77' 8"	
1:45	45	"	"			78' 3"	
1:50	50	"	"			79' 3"	
1:55	55	"	"			79' 3"	
2:00	60	"	"			79' 5"	
2:05	65	"	"			80' 0"	
2:10	70	"	"			80' 0"	
2:15	75	"	"			80' 3"	
2:20	80	"	"			80' 9"	
2:25	85	"	"			80' 9"	
2:30	90	"	"			80' 9"	
2:35	95	"	"			80' 9"	
2:40	100	"	"			80' 9"	
2:45	105	"	"			80' 9"	
2:50	110	"	"			80' 9"	
2:55	115	"	"			80' 9"	
3:00	120	"	"			80' 9"	
3:10	130(10 min.)	"	"			80' 9"	
3:20	140	"	"			80' 9"	
3:30	150	"	"			80' 9"	
3:40	160	"	"			80' 9"	
3:50	170	"	"			80' 9"	
4:00	180	"	"			81' 0"	
4:15	195(15 min.)	"	"			81' 0"	
4:30	210	"	"			81' 0"	
5:00	240(30 min.)	"	"			81' 0"	
6:00	300(60 min.)	"	"			81' 0"	
7:00	360	"	"			81' 0"	
8:00	420	"	"			81' 0"	
9:00	480	"	"			81' 0"	
10:00	540	"	"			81' 0"	
11:00	600	"	"			81' 0"	
12:00	660	"	"			81' 0"	
1:00	720	"	"			81' 0"	
2:00	780	"	"			81' 0"	

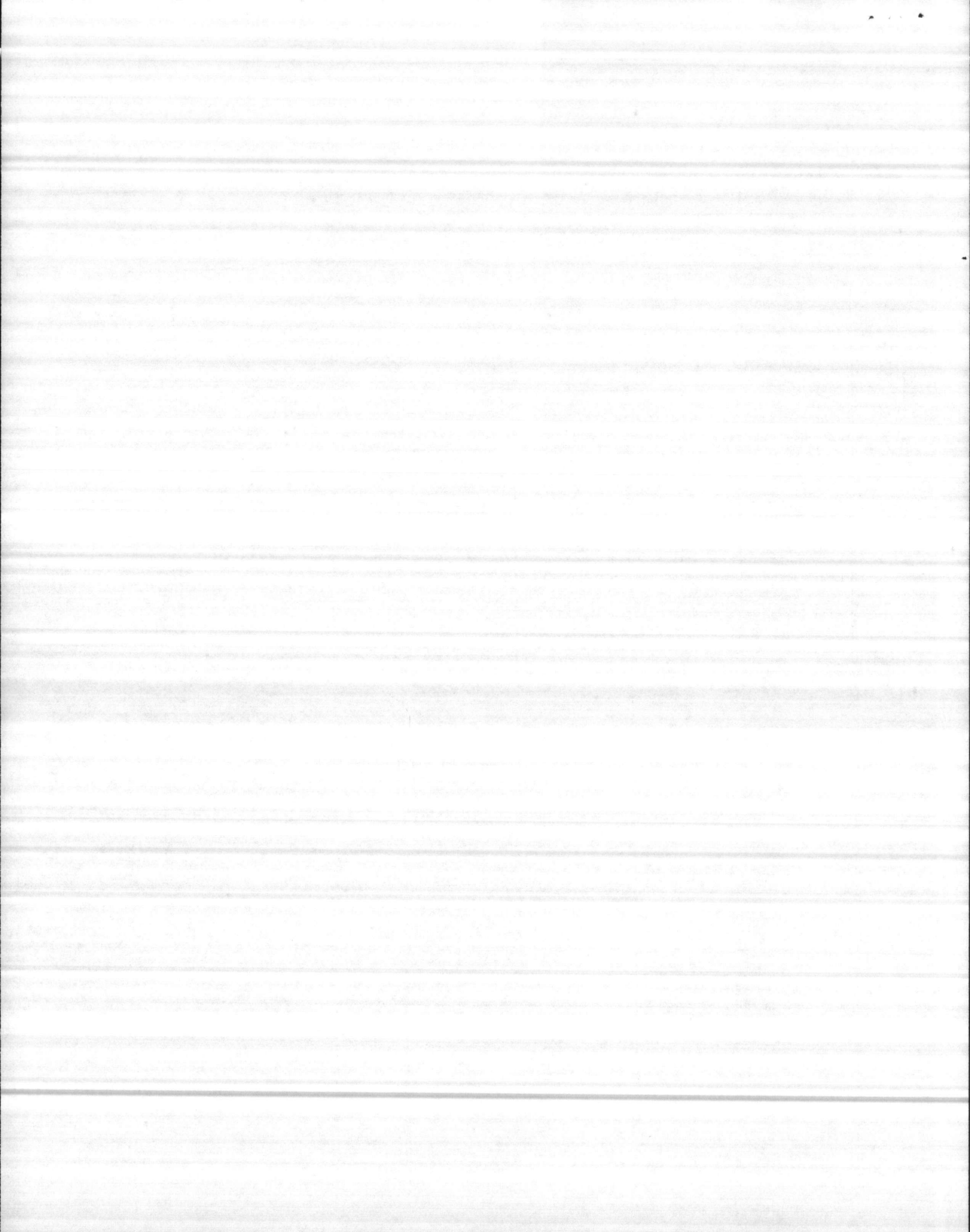


Lejeune & Pump Co. R. Thomas
 Lejeune Address: _____
 Well No.: BB43 Location: _____ County: Onslow
 Observation Well Locations: _____
 Airline Lengths: Pumped Well _____ Observation Wells _____
 Remarks: _____

Pumping rate measured with: _____ Water levels measured with: _____

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
11/22/83							
3:00	840 min.	13	151			81' 0"	
4:00	900	"	"			81' 0"	
5:00	960	"	"			81' 0"	
6:00	1020	"	"			81' 0"	
7:00	1080	"	"			81' 0"	
8:00	1140	"	"			81' 0"	
9:00	1200	"	"			81' 0"	
10:00	1260	"	"			81' 0"	
11:00	1320	"	"			81' 0"	
12:00	1380	"	"			81' 0"	
1:00	1440	"	"			81' 0"	
						81' 0"	
		Recovery					
1:05PM						36' 9"	
1:10						32' 5"	
1:15						29' 8"	
1:20						26' 10"	
1:25						25' 0"	
1:30						23' 7"	
1:35						21' 0"	
1:40						19' 6"	
1:45						18' 6"	
1:50						18' 0"	
1:55						17' 9"	
2:00						17' 1"	



File 60/100/02

CONTRACTOR'S SUBMITTAL TRANSMITTAL
5ND LANTDIV 4-4355/3 (Rev. 6/78)

CONTRACT NO. <i>SB-C-4551</i>	TRANSMITTAL NO. <i>23</i>	DATE <i>1/18/84</i>
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FROM CONTRACTOR
East Coast Construction Co. Inc.
 TO
ROICC

PROJECT TITLE AND LOCATION
*Replacing three (3) water wells
 Camp Lejeune AC. well N° BB-43*

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

REVIEWER USE ONLY
 **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
	<i>15201-7.3</i>	<i>24 hour Pumping Test</i>	<i>4</i>	<i>RA</i>	<i>JUD 1/26/84</i>

CONTRACTOR'S COMMENTS
well N° BB-43 24 hr. Pumping Test

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER FROM (Reviewer) TO

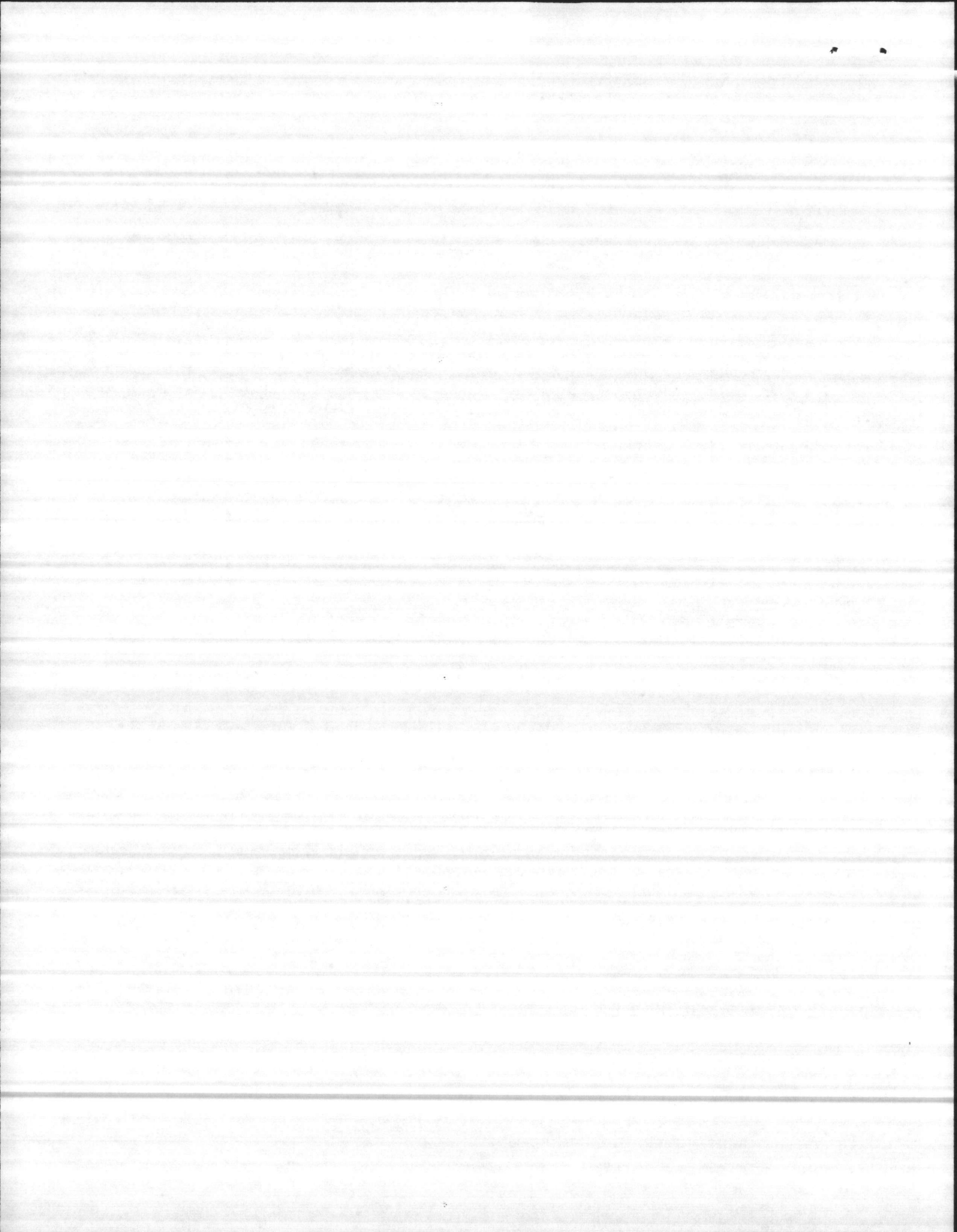
- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE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

REVIEWER'S COMMENTS

*copy - Contractor
 Filed
 1-25-84*

JAN 21 12 55 PM '84
 RECEIVED
 ROICC/ENV/A

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE <i>1/26/84</i>	SIGNATURE <i>Judana</i>
---	------------------------	----------------------------



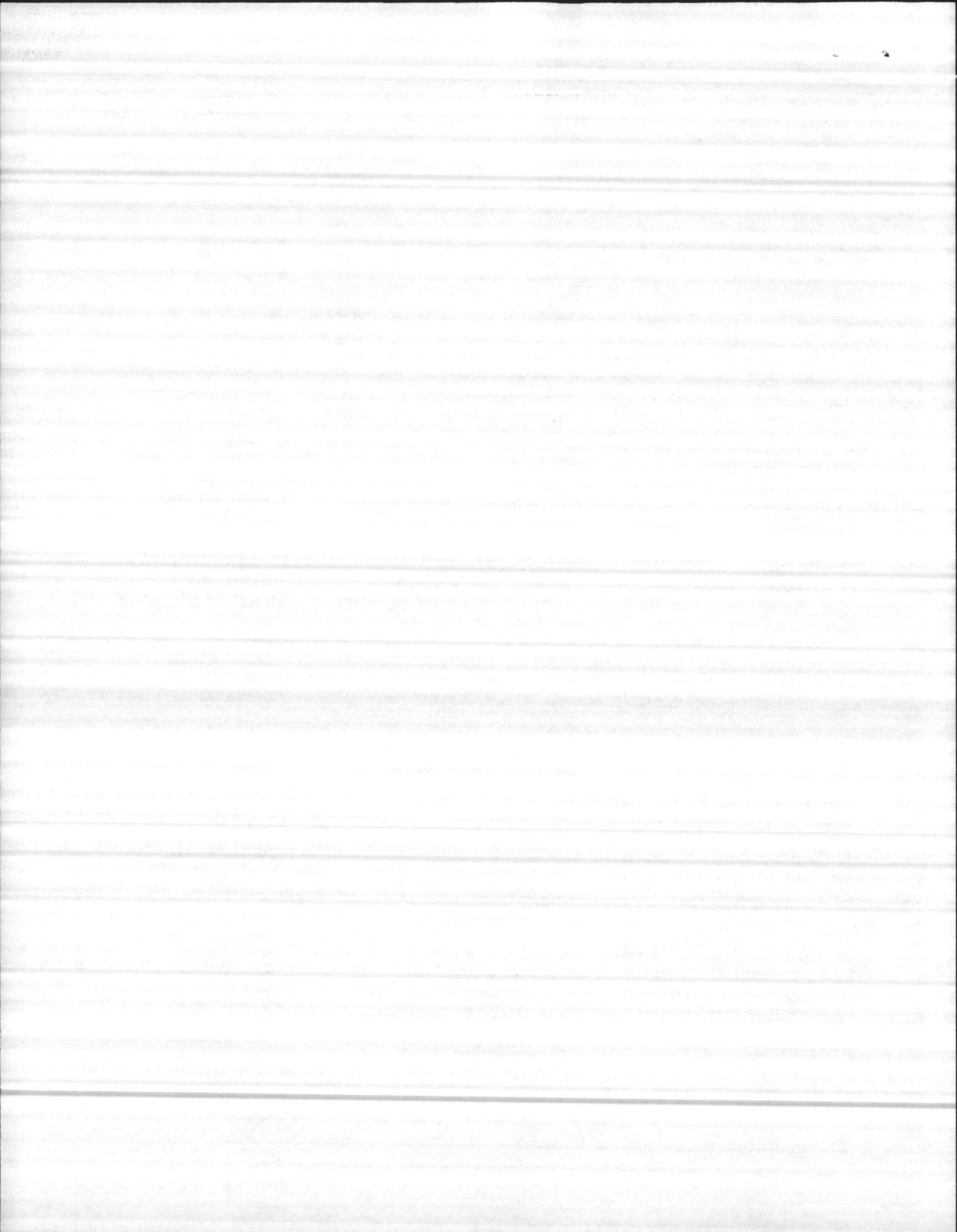
PUMPING TEST DATA

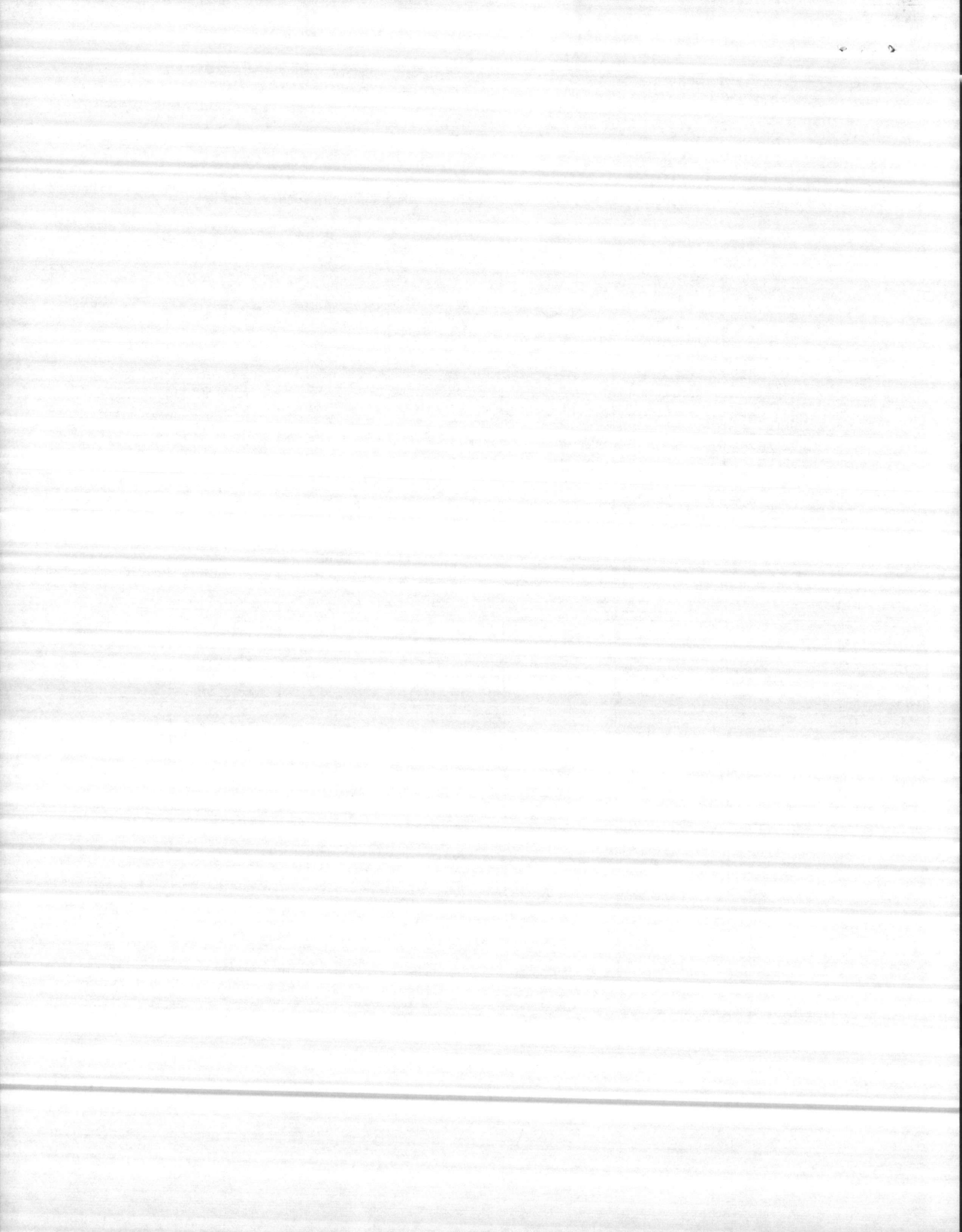
Owner: Carolina Well & Pump Co. Address: R. Thomas
 Pumped Well No.: BB 43 Location: Corthouse Bay County: Onslow
 Observation Well Locations: _____
 Line Lengths: Pumped Well _____ Observation Wells _____
 Remarks: _____

Pumping rate measured with: 3 x 4 orifice Water levels measured with: electric tape

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
10/13/83							
11:25 AM							
11:30	5 min.	23	250			13' 4"	
11:35	10	"	"			13' 4"	
11:40	15	"	"			16' 8"	
11:45	20	"	"			17' 3"	
11:50	25	"	"			17' 6"	
11:55	30	"	"			17' 8"	
12:00	35	"	"			17' 9"	
12:05 PM	40	"	"			18' 0"	
12:10	45	"	"			18' 1"	
12:15	50	"	"			18' 3"	
12:20	55	"	"			18' 5"	
12:25	60	"	"			18' 6"	
12:30	65	"	"			18' 6"	
12:35	70	"	"			18' 8"	
12:40	75	"	"			18' 8"	
12:45	80	"	"			18' 10"	
12:50	85	"	"			18' 10"	
12:55	90	"	"			18' 11"	
1:00	95	"	"			19' 0"	
1:05	100	"	"			19' 2"	
1:10	105	"	"			19' 4"	
1:15	110	"	"			19' 4"	
1:20	115	"	"			19' 5"	
1:25	120	"	"			19' 7"	
1:35	130(10 min.)	"	"			19' 8"	
1:45	140	"	"			19' 8"	
1:55	150	"	"			19' 11"	
2:10	165(15 min.)	"	"			20' 2"	
2:25	180	"	"			20' 4"	
3:25	240(60 min.)	"	"			20' 8"	
4:25	300	"	"			20' 10"	
5:25	360	"	"			21' 9"	
6:25	420	"	"			22' 4"	
7:25	480	"	"			22' 7"	
8:25	540	"	"			22' 8"	
9:25	600	"	"			22' 8"	
10:25	660	"	"			22' 8"	
1:25	720	"	"			22' 8"	
2:25	780	"	"			22' 8"	
1:25	840	"	"			22' 8"	
2:25	900	"	"			22' 8"	
:25	960	"	"			22' 9"	
:25	1020	"	"			22' 9"	





CONTRACTOR'S SUBMITTAL TRANSMITTAL
AND LANTDIV 4-4355/3 (Rev. 6/76)

File 60/209
 12/13/83

CONTRACT NO. 82-4551	TRANSMITTAL NO. 22	DATE 12/13/83
PROJECT TITLE AND LOCATION Replace (3) water wells		
BB-43 Courthouse Bay		

FROM CONTRACTOR
EAST Coast Construction Co. INC

TO
ROICC

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

****ACTION CODES**

- 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
	15201-7.3	24 Hour Pumping Test	7		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

Lon Allen

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.
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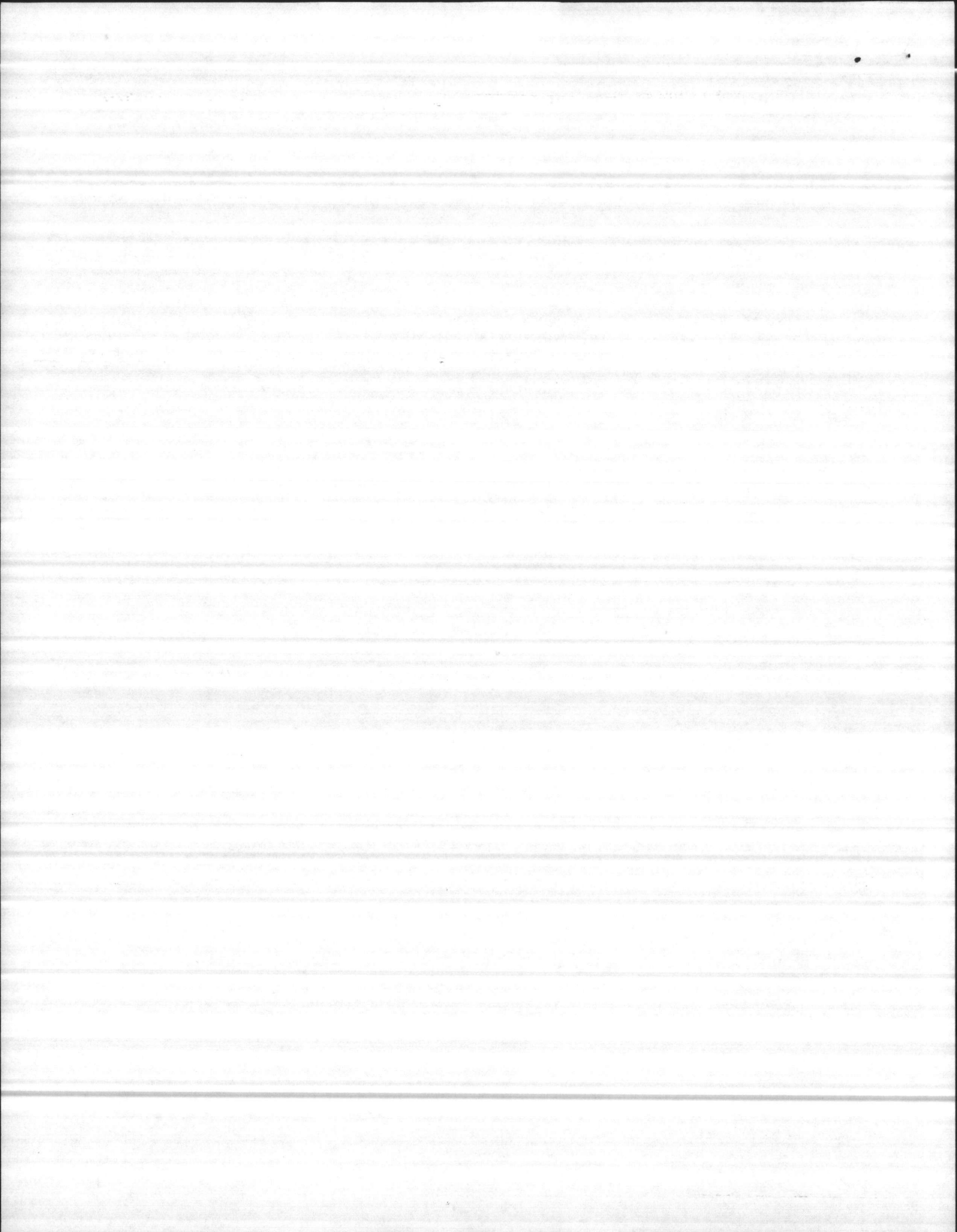
REVIEWER'S COMMENTS

RECEIVED
 NOTED
 DEC 13 12 20 PM '83
 NOTED
 NOTED
 NOTED

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

DATE

SIGNATURE

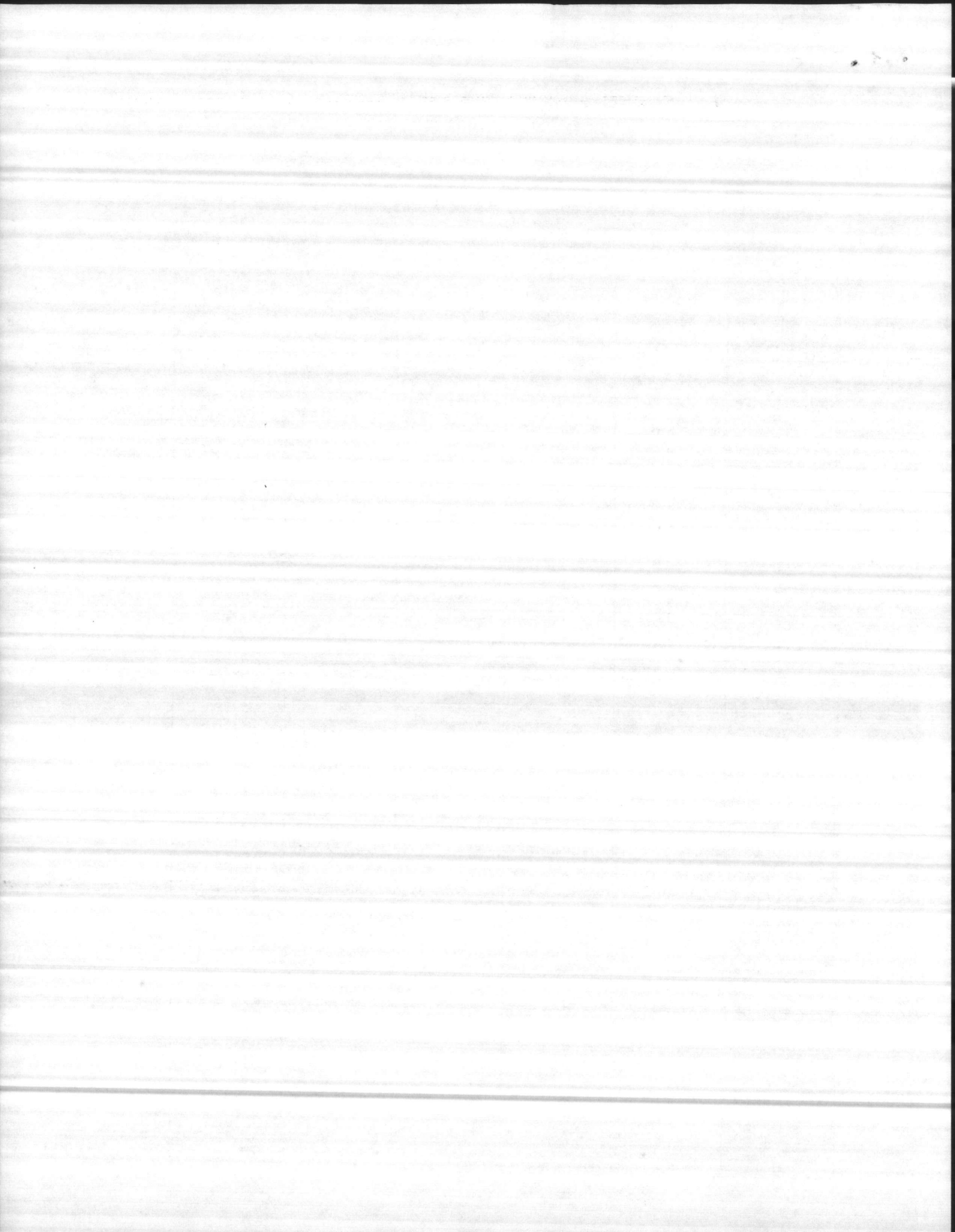


PUMPING TEST DATA

Conducted by: Carolina Well & Pump Co. R. Thomas
 Owner: Camp Lejeune Address: _____
 Pumped Well No.: BB 43 Location: Corthouse Bay County: Onslow
 Observation Well Locations: _____
 Airline Lengths: Pumped Well _____ Observation Wells _____
 Remarks: _____
 Pumping rate measured with: 3 x 4 orifice Water levels measured with: electric tape

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
10/13/83							
11:25 AM						13' 4"	
11:30	5 min.	23	250			13' 4"	
11:35	10	"	"			16' 8"	
11:40	15	"	"			17' 3"	
11:45	20	"	"			17' 6"	
11:50	25	"	"			17' 8"	
11:55	30	"	"			17' 9"	
12:00	35	"	"			18' 0"	
12:05 PM	40	"	"			18' 1"	
12:10	45	"	"			18' 3"	
12:15	50	"	"			18' 5"	
12:20	55	"	"			18' 6"	
12:25	60	"	"			18' 6"	
12:30	65	"	"			18' 8"	
12:35	70	"	"			18' 8"	
12:40	75	"	"			18' 10"	
12:45	80	"	"			18' 10"	
12:50	85	"	"			18' 11"	
12:55	90	"	"			19' 0"	
1:00	95	"	"			19' 2"	
1:05	100	"	"			19' 4"	
1:10	105	"	"			19' 4"	
1:15	110	"	"			19' 5"	
1:20	115	"	"			19' 7"	
1:25	120	"	"			19' 8"	
1:35	130(10 min.)	"	"			19' 8"	
1:45	140	"	"			19' 11"	
1:55	150	"	"			20' 0"	
2:00	160(15 min.)	"	"			20' 4"	
2:25	180	"	"			20' 8"	
3:25	240(60 min.)	"	"			20' 10"	
4:25	300	"	"			21' 9"	
5:25	360	"	"&			22' 4"	
6:25	420	"	"			22' 7"	
7:25	480	"	"			22' 8"	
8:25	540	"	"			22' 8"	
9:25	600	"	"			22' 8"	
10:25	660	"	"			22' 8"	
11:25	720	"	"			22' 8"	
12:25	780	"	"			22' 8"	
1:25	840	"	"			22' 8"	
2:25	900	"	"			22' 9"	
3:25	960	"	"			22' 9"	
4:25	1020	"	"			22' 9"	



PUMPING TEST DATA

Well & Pump Co.

R. Thomas

Address:

Location: Courthouse Bay

County: Onslow

Well

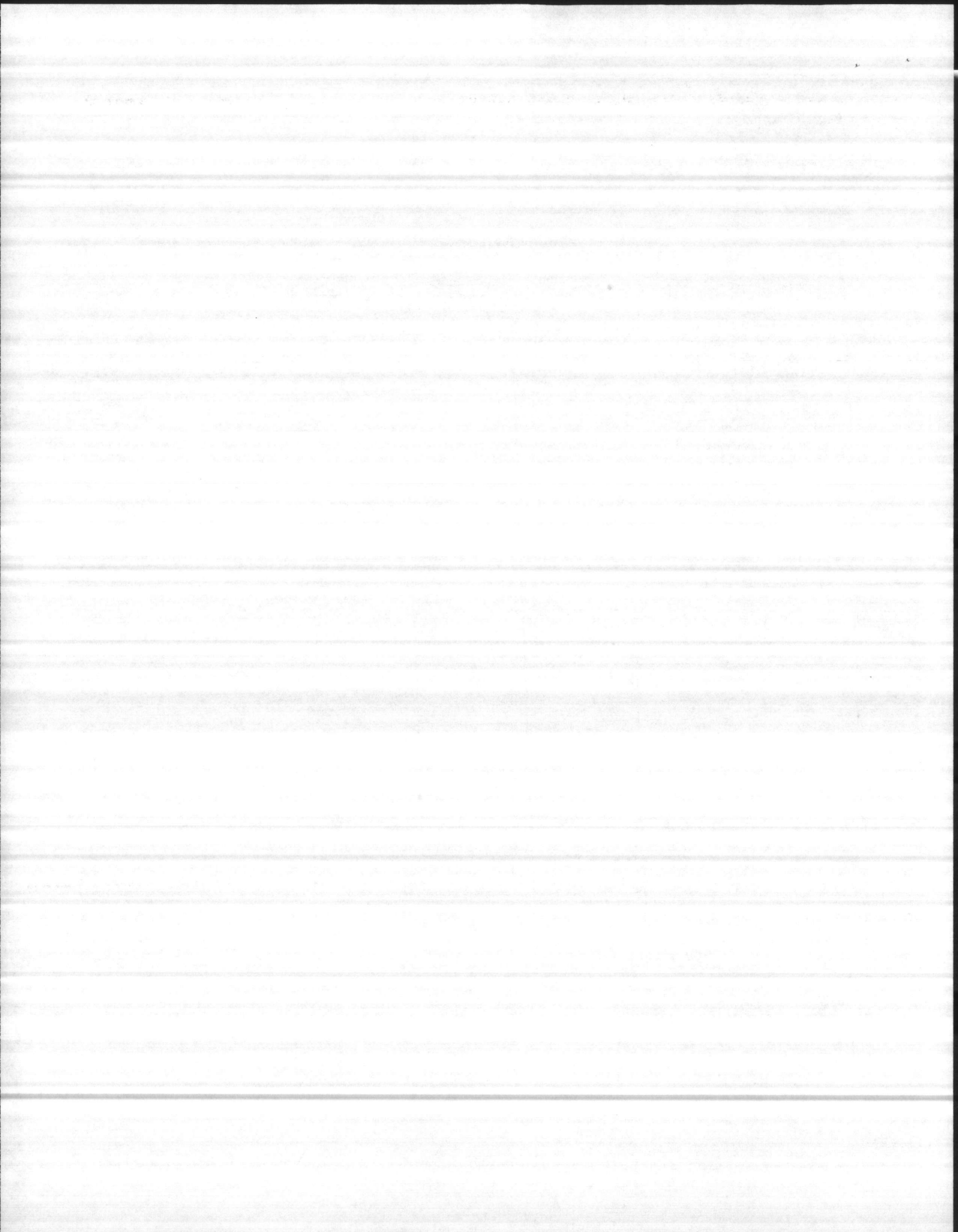
Observation Wells

measured with:

Water levels measured with:

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
10/14/83							
5:29 PM	1080 min.	23	250				
6:25	1140	"	"			22' 9"	
7:25	1200	"	"			22' 9"	
8:25	1260	"	"			22' 9"	
9:25	1320	"	"			22' 9"	
10:25	1380	"	"			22' 9"	
11:25	1440	"	"			22' 9"	
						22' 9"	
Recovery							
11:30 AM							
1:35	5 min.					22' 9"	
1:40	10					17' 0"	
1:45	15					14' 5"	
1:50	20					14' 3"	
1:55	25					14' 1"	
2:00	30					13' 9"	
						13' 4"	



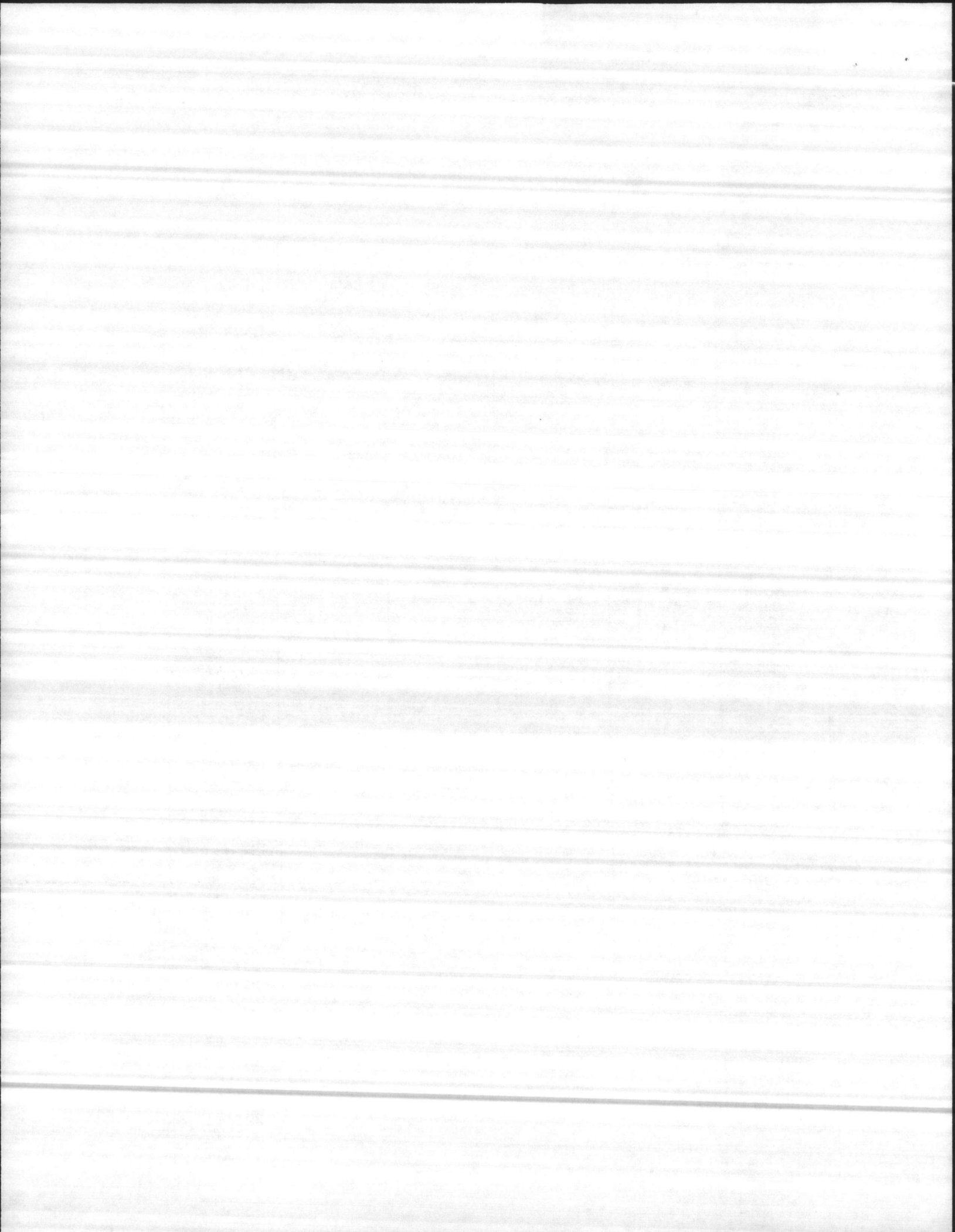
PUMPING TEST DATA

by: Carolina Well & Pump Co. R. Thomas
 Owner: Camp Lejeune Address: _____
 Pumped Well No.: BB 43 Location: Corthouse Bay County: Onslow
 Observation Well Locations: _____
 Airline Lengths: Pumped Well _____ Observation Wells _____
 Remarks: _____

Pumping rate measured with: 3 x 4 orifice Water levels measured with: electric tape

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
10/13/83							
11:25 AM						13' 4"	
11:30	5 min.	23	250			13' 4"	
11:35	10	"	"			16' 8"	
11:40	15	"	"			17' 3"	
11:45	20	"	"			17' 6"	
11:50	25	"	"			17' 8"	
11:55	30	"	"			17' 9"	
12:00	35	"	"			18' 0"	
12:05 PM	40	"	"			18' 1"	
12:10	45	"	"			18' 3"	
12:15	50	"	"			18' 5"	
12:20	55	"	"			18' 6"	
12:25	60	"	"			18' 6"	
12:30	65	"	"			18' 8"	
12:35	70	"	"			18' 8"	
12:40	75	"	"			18' 10"	
12:45	80	"	"			18' 10"	
12:50	85	"	"			18' 11"	
12:55	90	"	"			19' 0"	
1:00	95	"	"			19' 2"	
1:05	100	"	"			19' 4"	
1:10	105	"	"			19' 4"	
1:15	110	"	"			19' 5"	
1:20	115	"	"			19' 7"	
1:25	120	"	"			19' 8"	
1:35	130(10 min.)	"	"			19' 8"	
1:45	140	"	"			19' 11"	
1:55	150	"	"			20' 2"	
2:00	160(15 min.)	"	"			20' 4"	
2:25	180	"	"			20' 8"	
3:25	240(60 min.)	"	"			20' 10"	
4:25	300	"	"			21' 9"	
5:25	360	"	"			22' 4"	
6:25	420	"	"			22' 7"	
7:25	480	"	"			22' 8"	
8:25	540	"	"			22' 8"	
9:25	600	"	"			22' 8"	
10:25	660	"	"			22' 8"	
11:25	720	"	"			22' 8"	
12:25	780	"	"			22' 8"	
1:25	840	"	"			22' 8"	
2:25	900	"	"			22' 9"	
3:25	960	"	"			22' 9"	
4:25	1020	"	"			22' 9"	



PUMPING TEST DATA

Carolina Well & Pump Co.

R. Thomas

Owned by:

Camp Lejeune

Address:

Owner:

Pumped Well No.: BB 43

Location: Courthouse Bay

County: Onslow

Observation Well Locations:

Airline Lengths: Pumped Well _____ Observation Wells _____

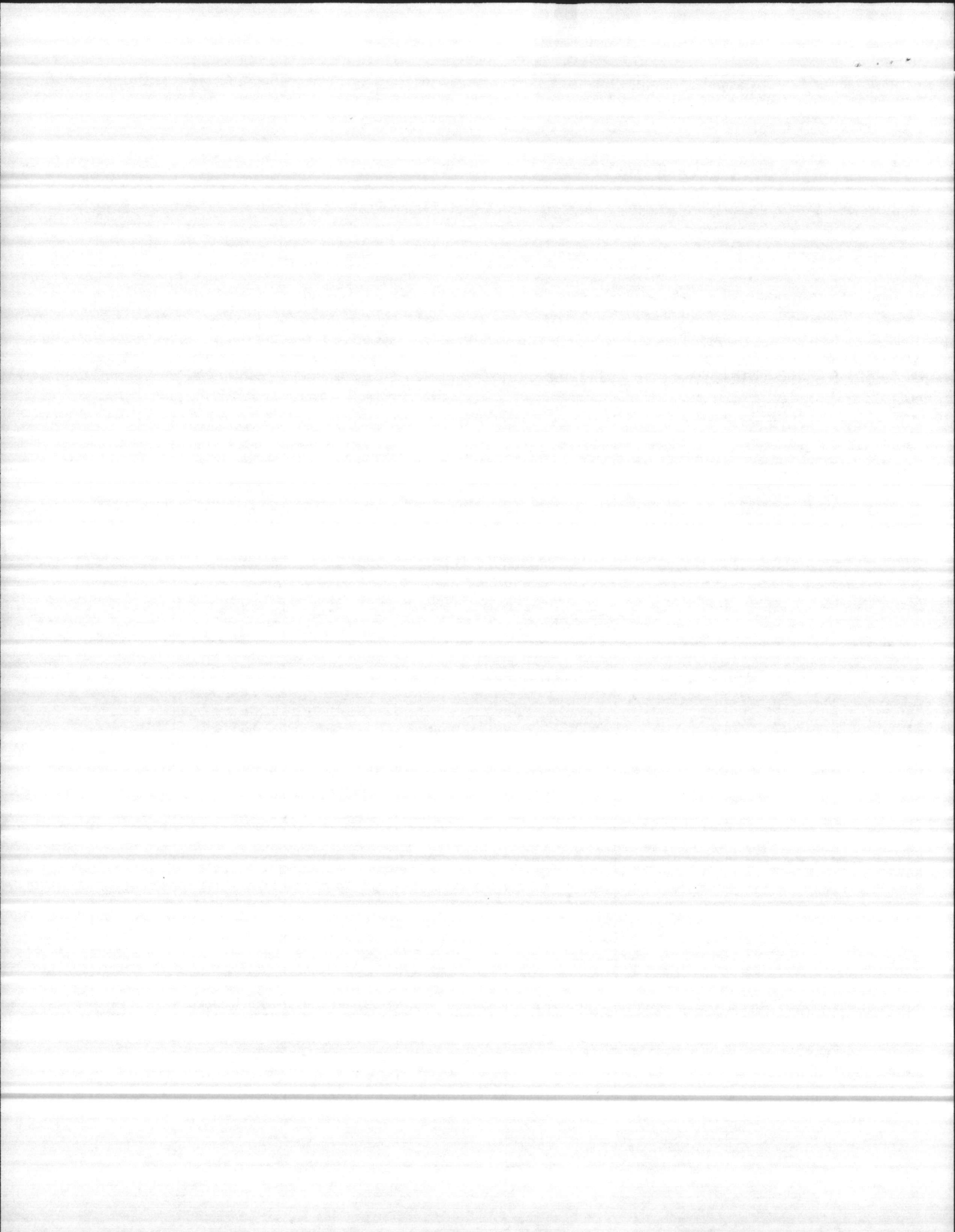
Remarks:

Pumping rate measured with:

Water levels measured with:

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
10/14/83							
5:29 PM	1080 min.	23	250			22' 9"	
6:25	1140	"	"			22' 9"	
7:25	1200	"	"			22' 9"	
8:25	1260	"	"			22' 9"	
9:25	1320	"	"			22' 9"	
10:25	1380	"	"			22' 9"	
11:25	1440	"	"			22' 9"	
Recovery							
11:30 AM						22' 9"	
11:35	5 min.					17' 0"	
11:40	10					14' 5"	
11:45	15					14' 3"	
11:50	20					14' 1"	
11:55	25					13' 9"	
12:00	30					13' 4"	

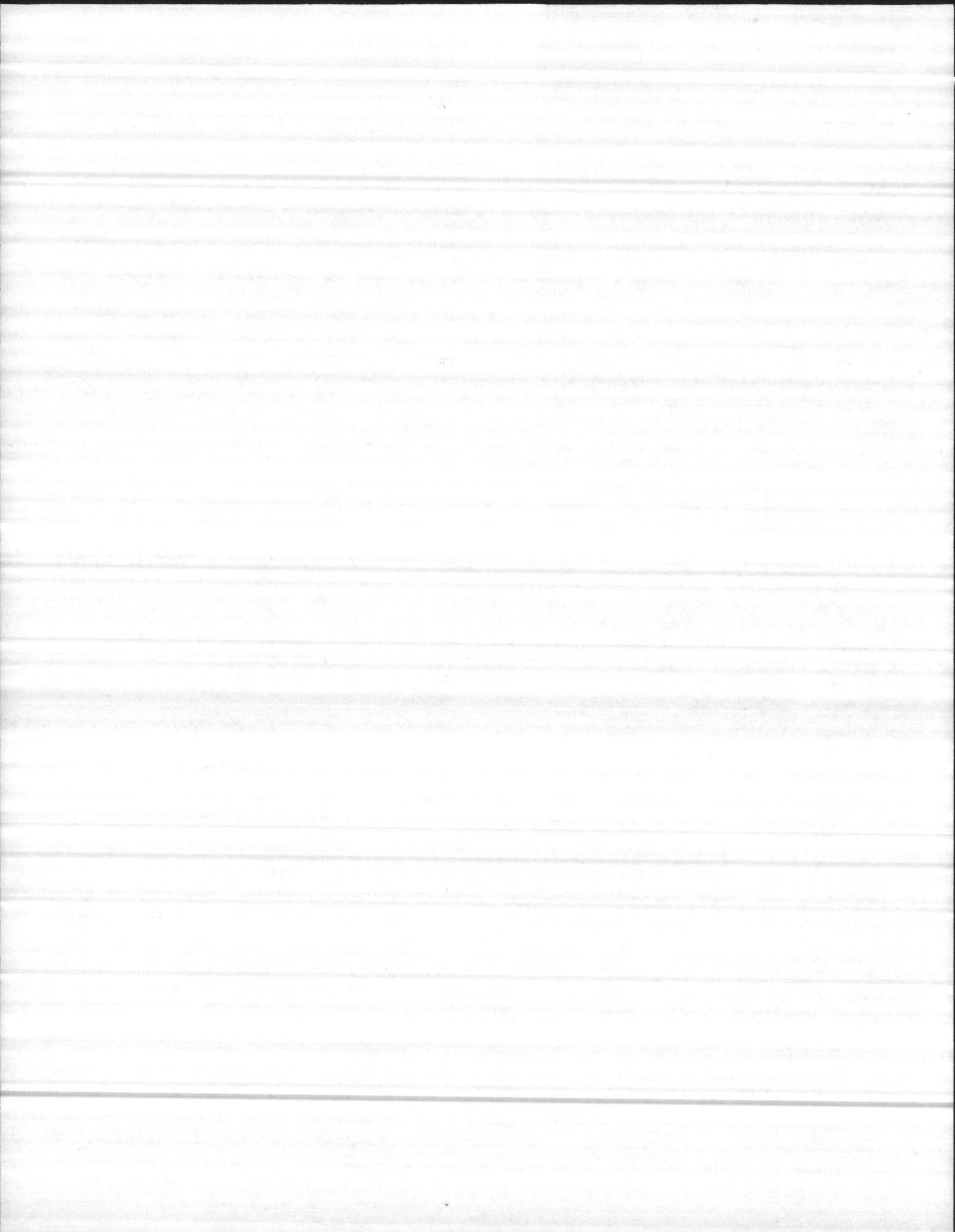


New BB43

4-17-86

A-L	S-L	P-L	D-D	Psi	GPM	Time
65	23	18	5	50	150	1230
		30	17	45	200	1245
		32	19	40	220	1300
		33	20	35	250	1330
left set at →		35	22	30	280	1345

used altitudo gage + installed meter



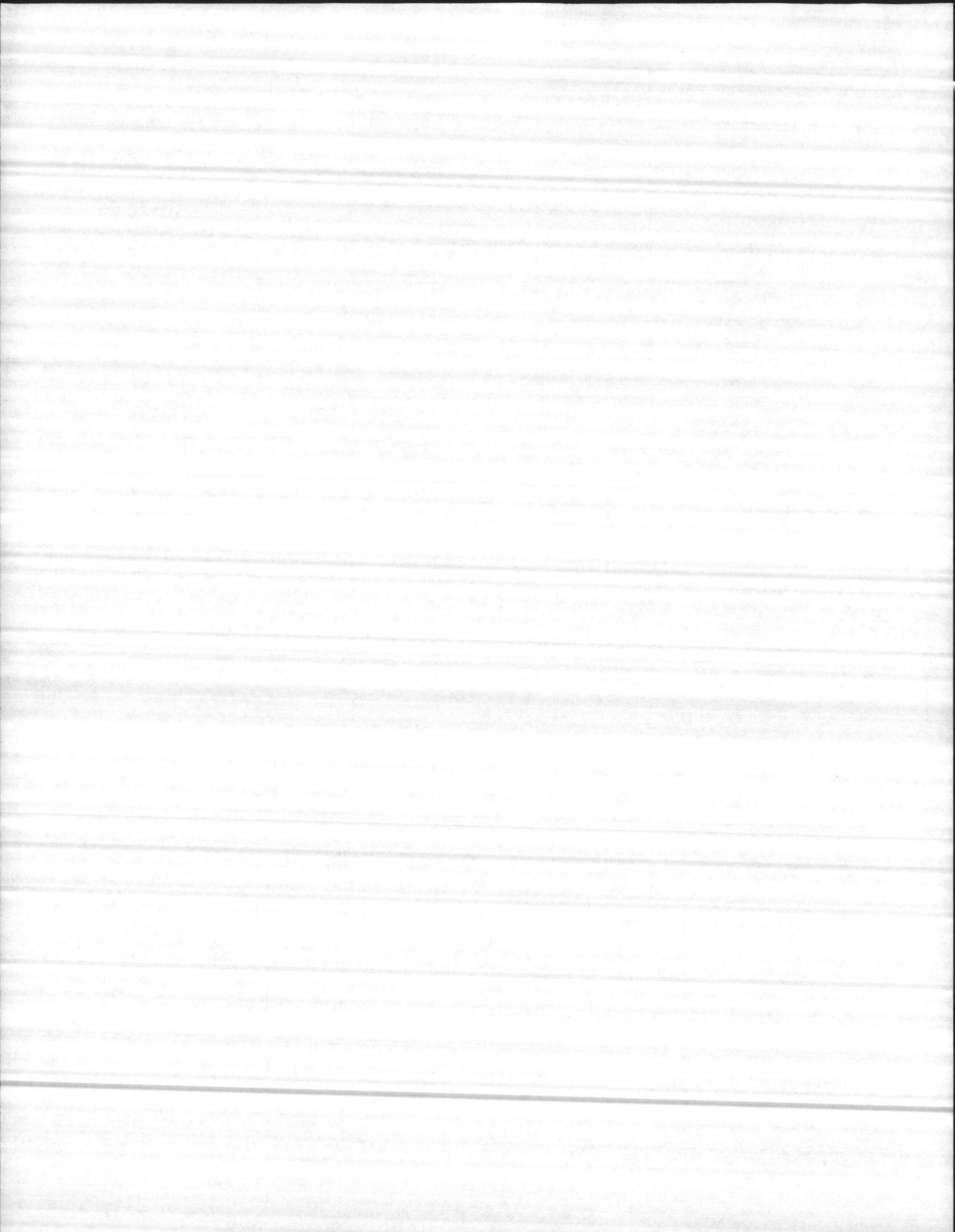
New well

WELL NUMBER AB 43		BY Thomas - Brown			DATE 1-2-85	
AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
75	15	20	5	60	104	1320
		27	12	57	137	1340
		33	18	54	157	1400
		35	20	50	187	1420
		37	22	46	232	1440
		39	24	40	275	1500
		40	25	36	285	1510
		42	37	30	320	1520

REMARKS

left set @ 30 psi 320 gpm s/l 15 A/c 75
 p/c 42 o/c 37

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE



CONTRACTOR'S SUBMITTAL TRANSMITTAL

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

Full

CONTRACT NO N62470-82-C-4551	TRANSMITTAL NO 16	DATE 9-08-83
PROJECT TITLE AND LOCATION Replacing Three (3) Water Wells, MCB Camp Lejeune, N. C. Well No. BB-43		

FROM CONTRACTOR
East Coast Construction Co., Inc.

TO
ROICC

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

REVIEWER USE ONLY

- **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	15201-6	Driller's Log	3	A	AR 60
2	15201-6	Electric Log and Gamma Log	3	↑	9-8-83
3	15201-6	Water Analysis	3		
4	15201-6	Sieve Analysis	3		
5	15201-6	Recommendation and Data Submittal	3	A	

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)
[Signature]

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.

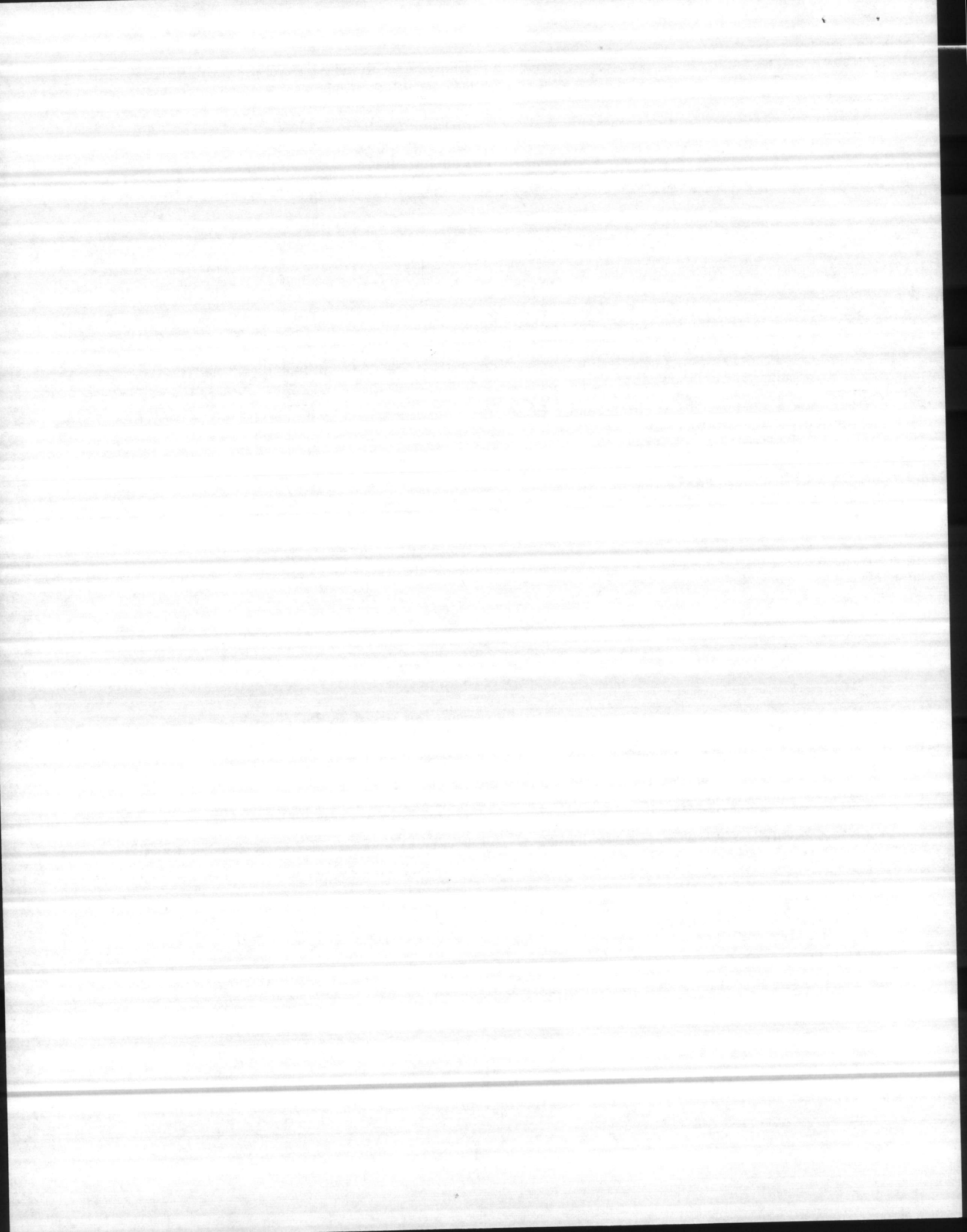
REVIEWER'S COMMENTS

*Copy - Full
Contractor
9-8-83*

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

DATE **9-8-83**

SIGNATURE *[Signature]*
ROICC



East Coast Construction

August 15, 1983

	ORDER	INT
E	60	CR
R		
B		
A		
5		
6		
7		
B		
RETURN TO		02

Officer in Charge of Construction
 Jacksonville North Carolina Area
 Marine Corps Base
 Camp LeJeune, North Carolina 28542

Subject: Replace Water Wells
 Buildings 601, M-168, & BB-43
 Construction Contract No. N62470-82-B-4551
 Enwright Job No. 82005-00-2-01

Gentlemen:

We have reviewed the attached submittal and offer the following comments (Please refer to second paragraph of the three letters dated July 5, 1983 from East Coast Construction Company):

- The .30 inch slot for the stainless steel screens appears to be too large.
- All wells shall be packed with gravel having a uniformity coefficient of not more than 2.5. The contractor recommends course sand.
- Electric log for well number ~~M~~-601 was not submitted.
- Well numbers M-168 and BB-43 do not meet specified yield.

We are requesting a resubmittal of the attached which should address the items mentioned above. Please advise as to acceptance or rejection of estimated yield for wells M-168 and BB-43.

Yours very truly,

ENWRIGHT ASSOCIATES, INC.

Thomas E. Sharpe, Jr.

Thomas E. Sharpe, Jr.
Project Manager

RECEIVED

AUG 26 1983

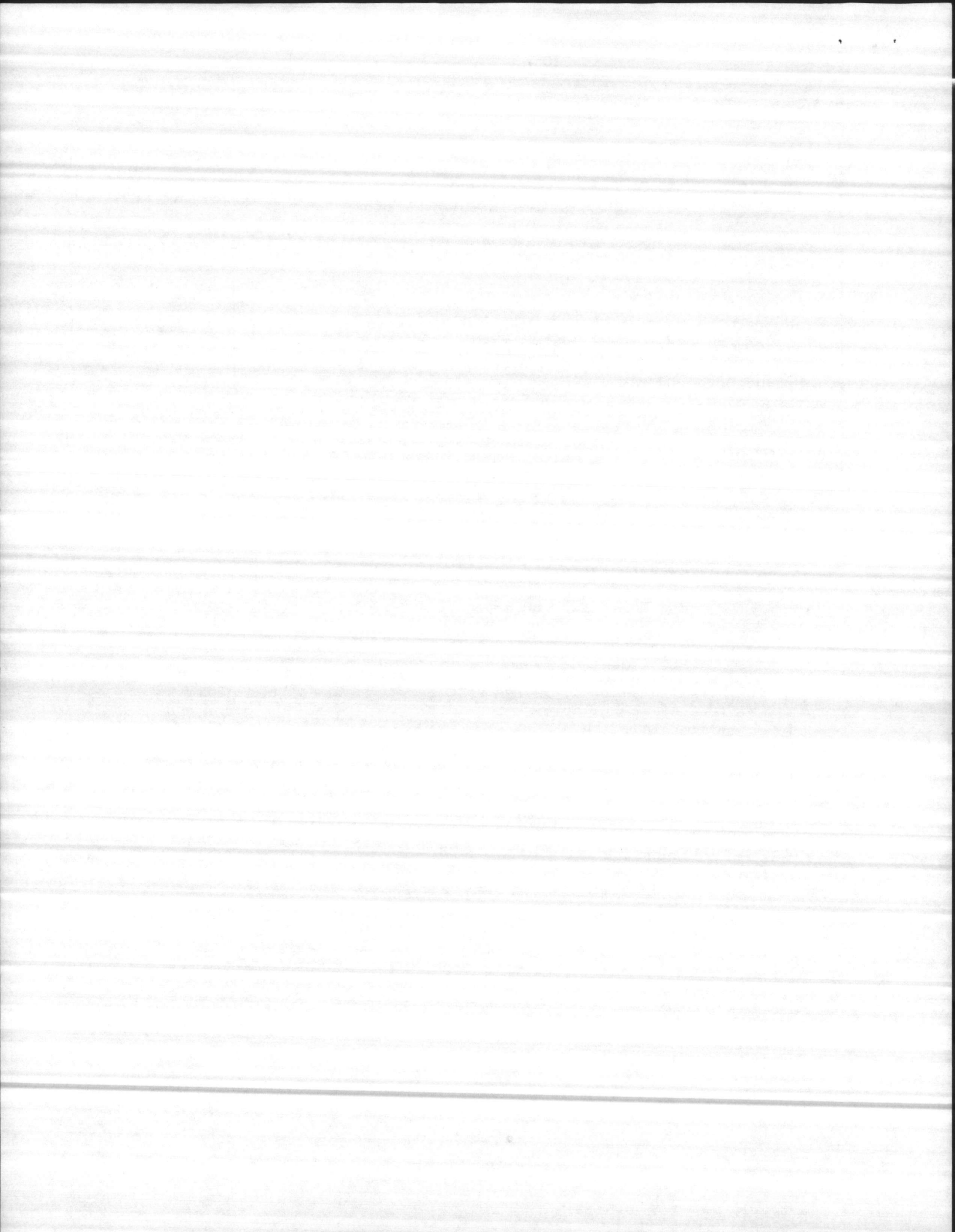
CONSTRUCTION CO., INC.

TES;jr/pdk

Attachment

cc: Mr. Fook-Kay Lee
File





EAST COAST CONSTRUCTION COMPANY, INC.

GENERAL CONTRACTORS

Post Office Box 5004

JACKSONVILLE, NORTH CAROLINA 28540

August 25, 1983

Officer in Charge of Construction
Building 1005
Camp Lejeune, N. C. 28542

Re: N62470-82-C-4551
Replace Three (3) Water Wells

Gentlemen:

As per our telephone discussion and attached letter from Enwright and Associates, we submit the following:

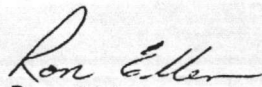
We are still recommending a .30 slot stainless steel screen and a course sand gravel pack. Sample attached. We base our recommendation on the attached sieve analysis from Johnson Company and our past experience in the development of water wells in this area.

We feel this method will offer the most efficient and productive well. As for the quantity of available water we base our recommendation on the attached gamma and electric logs and pumping test.

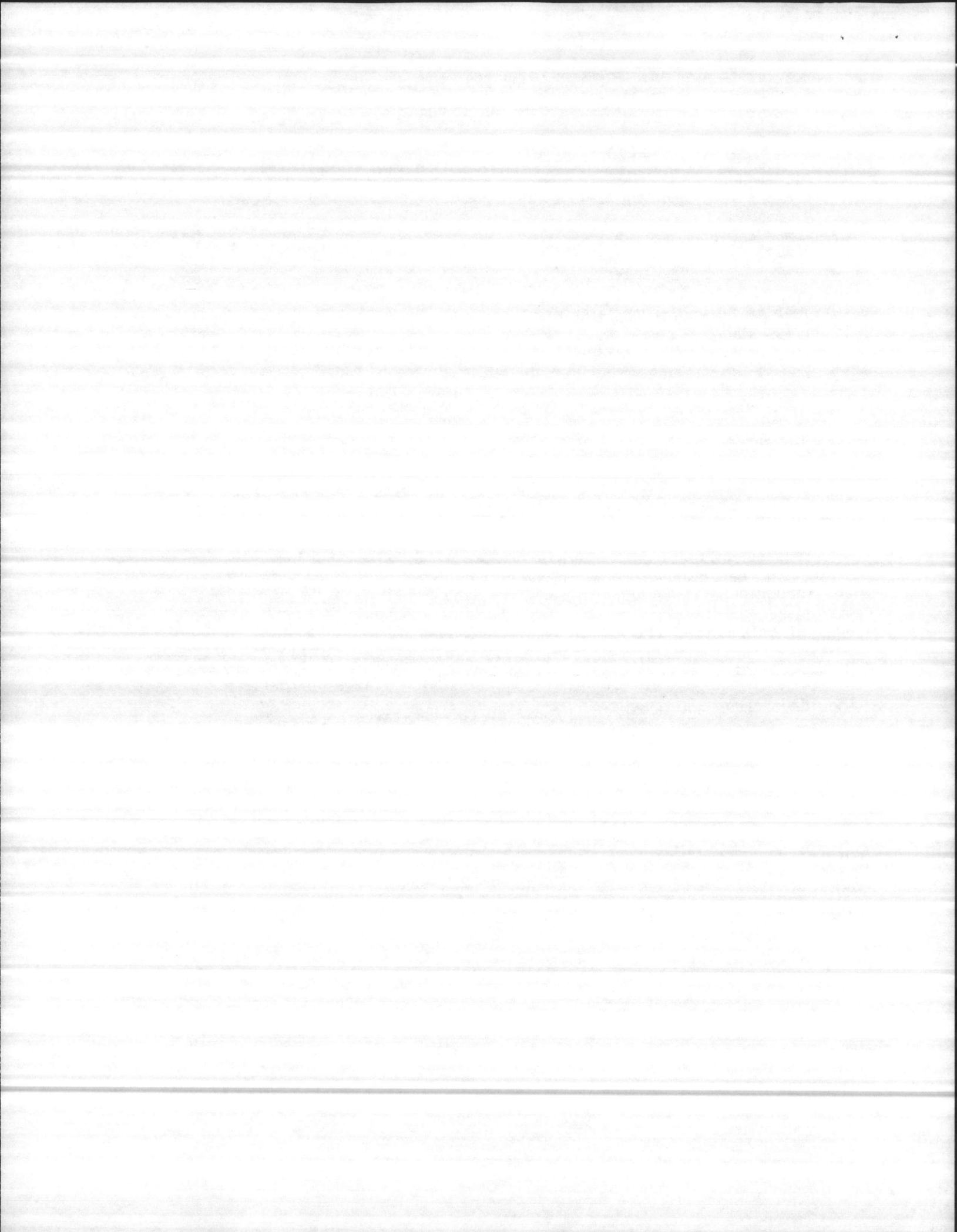
Should you have any questions please do not hesitate to contact us.

Yours very truly,

EAST COAST CONSTRUCTION CO., INC.


Ron Ellen

RRE/lm
Enclosures



July 09, 1983

**Officer in Charge of Construction
Building 1005
Camp Lejeune, N. C. 28542**

**Re: N62470-82-C-4551
Replacing Three (3) Water Wells
Camp Lejeune, N. C.
Well No. BB-43**

Gentlemen:

We are enclosing six (6) copies of the Driller's Log, Electric Log, Gamma Log, Water Analysis and Sieve Analysis for your review. The test well was drilled at 225 feet deep. Water samples were taken at the 45' and 115' levels.

We recommend a line of .30-slot stainless steel screens set at the 40' to 55'; and 102' to 125' levels for a total of 38 VF of screens. The gravel pack recommended is a coarse sand. It is our best estimate that this well may yield 200 GPM.

Please review the data and advise if we are to proceed with developing a permanent well at this site.

Yours very truly,

EAST COAST CONSTRUCTION CO., INC.

W. H. Myers

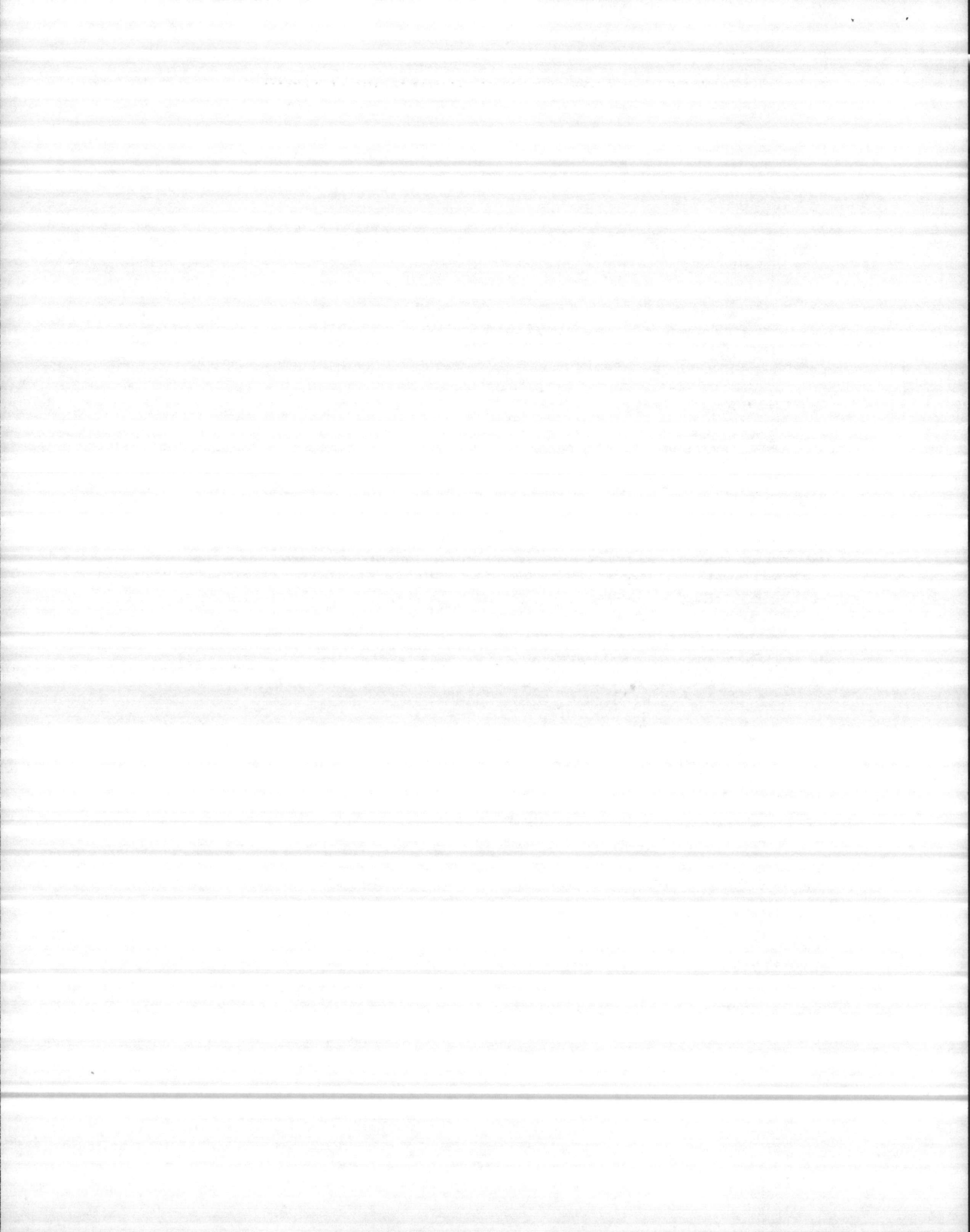
**WHM/lm
Enclosures**

C

O

P

Y



EAST COAST CONSTRUCTION COMPANY, INC.

GENERAL CONTRACTORS

Post Office Box 5004

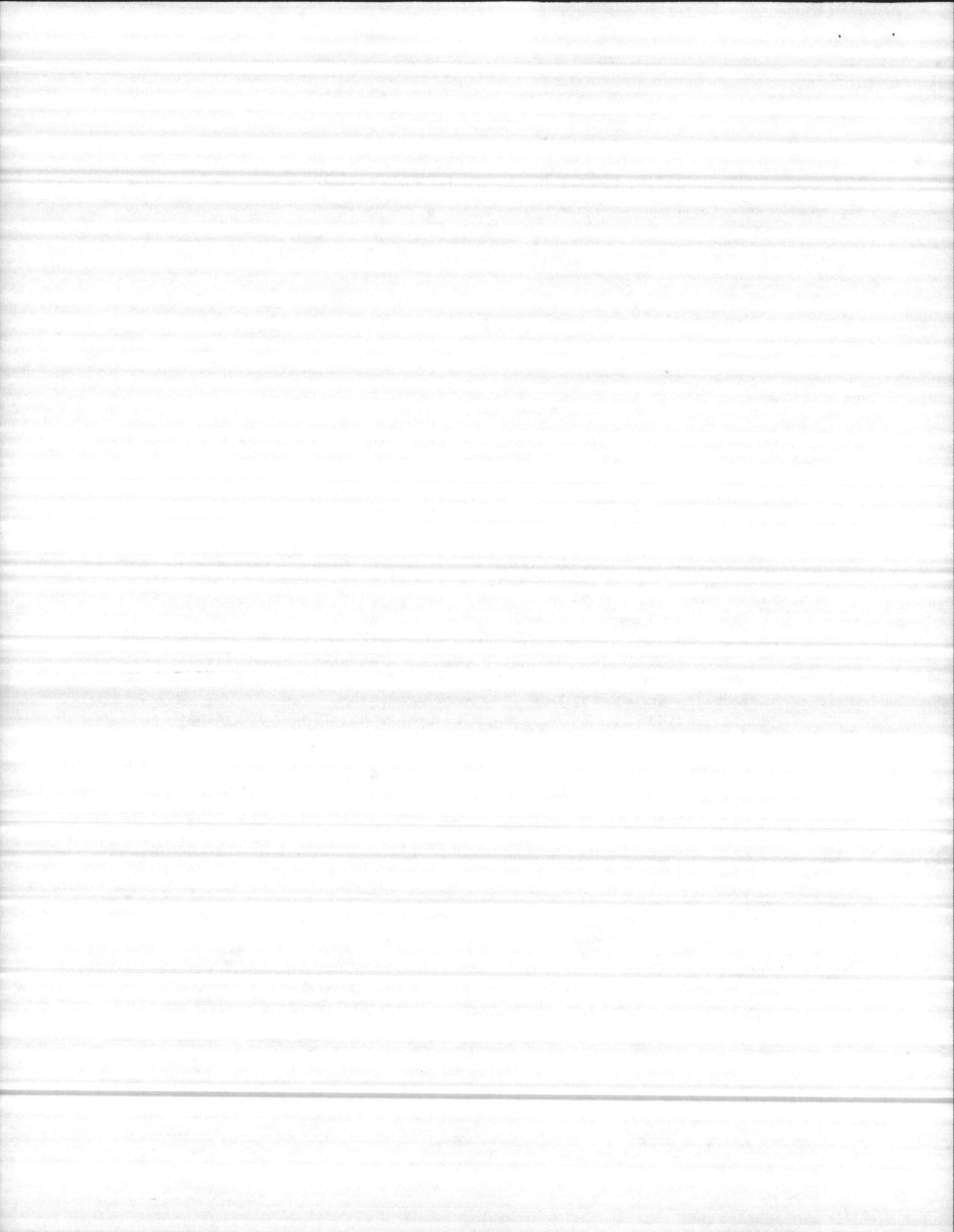
JACKSONVILLE, NORTH CAROLINA 28540

CAMP LEJEUNE

BB 43 47

June 17, 1983

0	-	10	very fine white sand
10	-	20	fine gray sand, some clay
20	-	30	fine gray sand, some clay and shale
30	-	40	fine to medium sand with shale and rock fragments
40	-	50	mostly shale with fine sand
50	-	60	large, mostly shale, some rock and sand
60	-	70	large rock, shells, sand
70	-	80	very fine gray uniform sand
80	-	90	shale, shells, fine sand, some clay
90	-	100	shale, shells, fine sand, some clay
100	-	110	shale, some sand, some clay
110	-	120	large rock fragments, fine sand, shale
120	-	130	rock fragments, shale, sand
130	-	140	sand, rock fragments, sand, clay
140	-	200	very fine, uniform gray sand



ANALYSIS

(FINE)

MAILING ADDRESS: P O BOX 43118
ST. PAUL, MINNESOTA ■ 55164



Sample sent in by _____

Contract N62470-82-C-455

Town _____

State _____

Zip _____

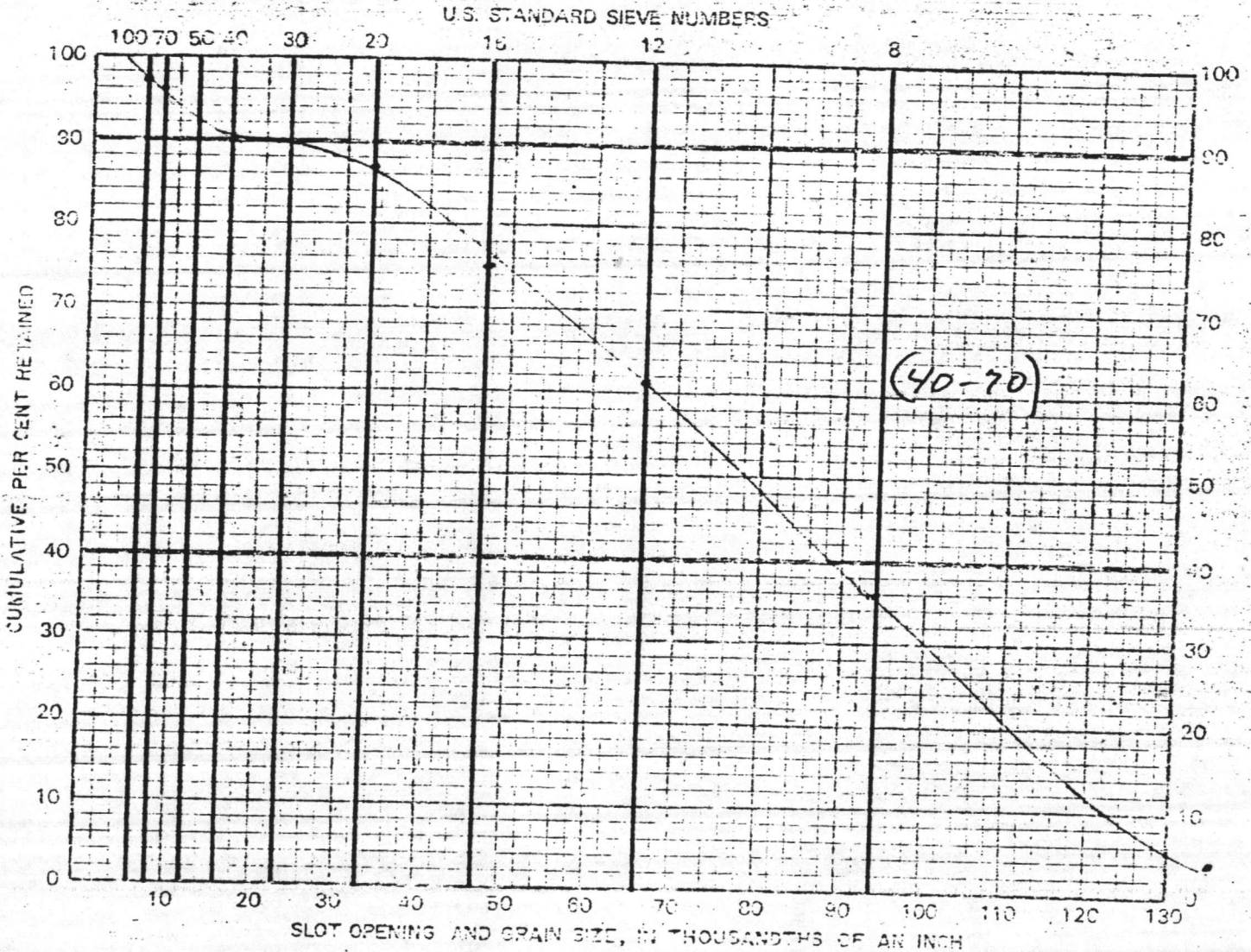
Date _____

C-27-83

From well of _____

Remarks:

Well BB-43 Camp Lejeune, NC
For Gravel Pack Selection



U.S. SIEVE NO.	SIEVE OPENING (INCHES)	SIEVE OPENING (MM)	CUM. PERCENT RETAINED
6	2.50	63.5	
8	1.92	48.8	
12	1.18	29.9	
16	0.84	21.3	
20	0.60	15.2	
30	0.42	10.7	
40	0.30	7.6	
50	0.25	6.3	
70	0.21	5.3	
100	0.15	3.8	

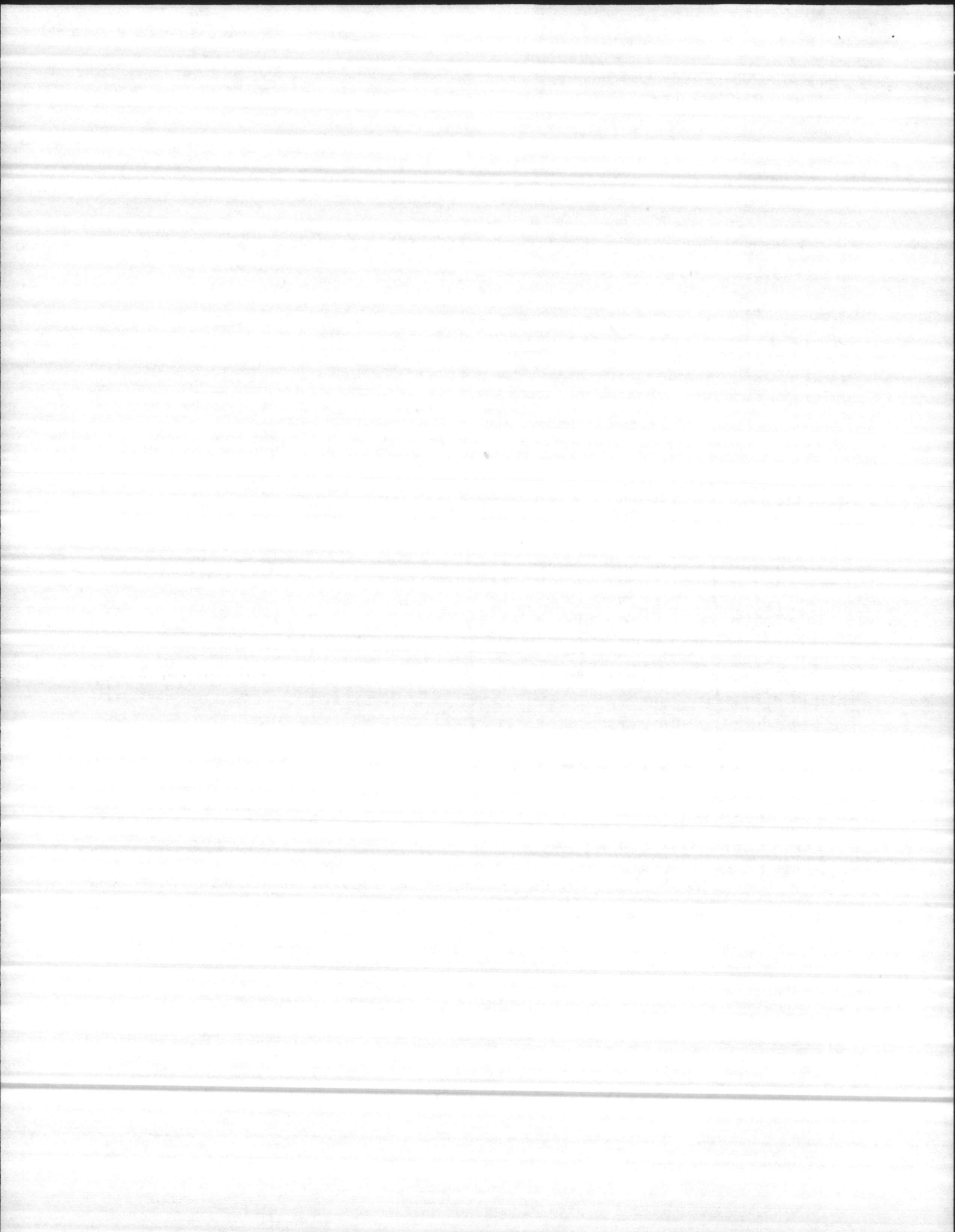
Notes: _____

Recommended Slot Opening: _____

Recommended Screen: Dia. _____ in. Length _____ Ft.

By: B PV

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.



ANALYSIS (FINE)

MAILING ADDRESS: P.O. BOX 43118
ST. PAUL, MINNESOTA • 55164

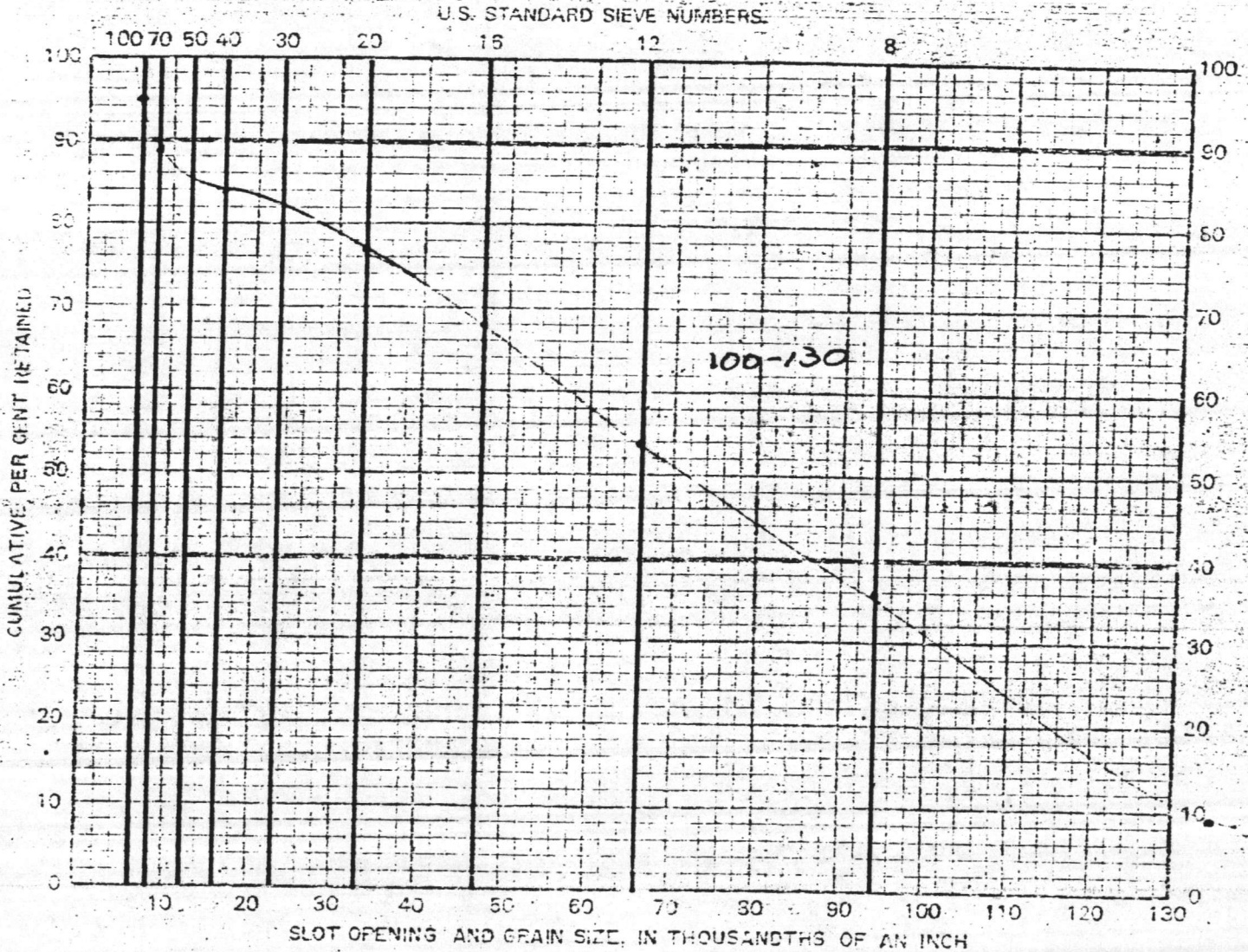
UOP Inc.

Sample sent in by _____

Town _____ State _____ Zip _____ Date _____

From well of _____

Remarks: BB-43 Camp LeJeune NYC



S. SIEVE NO.	SIEVE OPENING INCHES	SIEVE OPENING MM.	CUMULATIVE* RETAINED
6	.192	3.36	
8	.024	2.33	
12	.085	1.68	
16	.047	1.19	
20	.025	0.64	
30	.023	0.60	
40	.016	0.42	
50	.012	0.30	
70	.008	0.21	
100	.006	0.15	

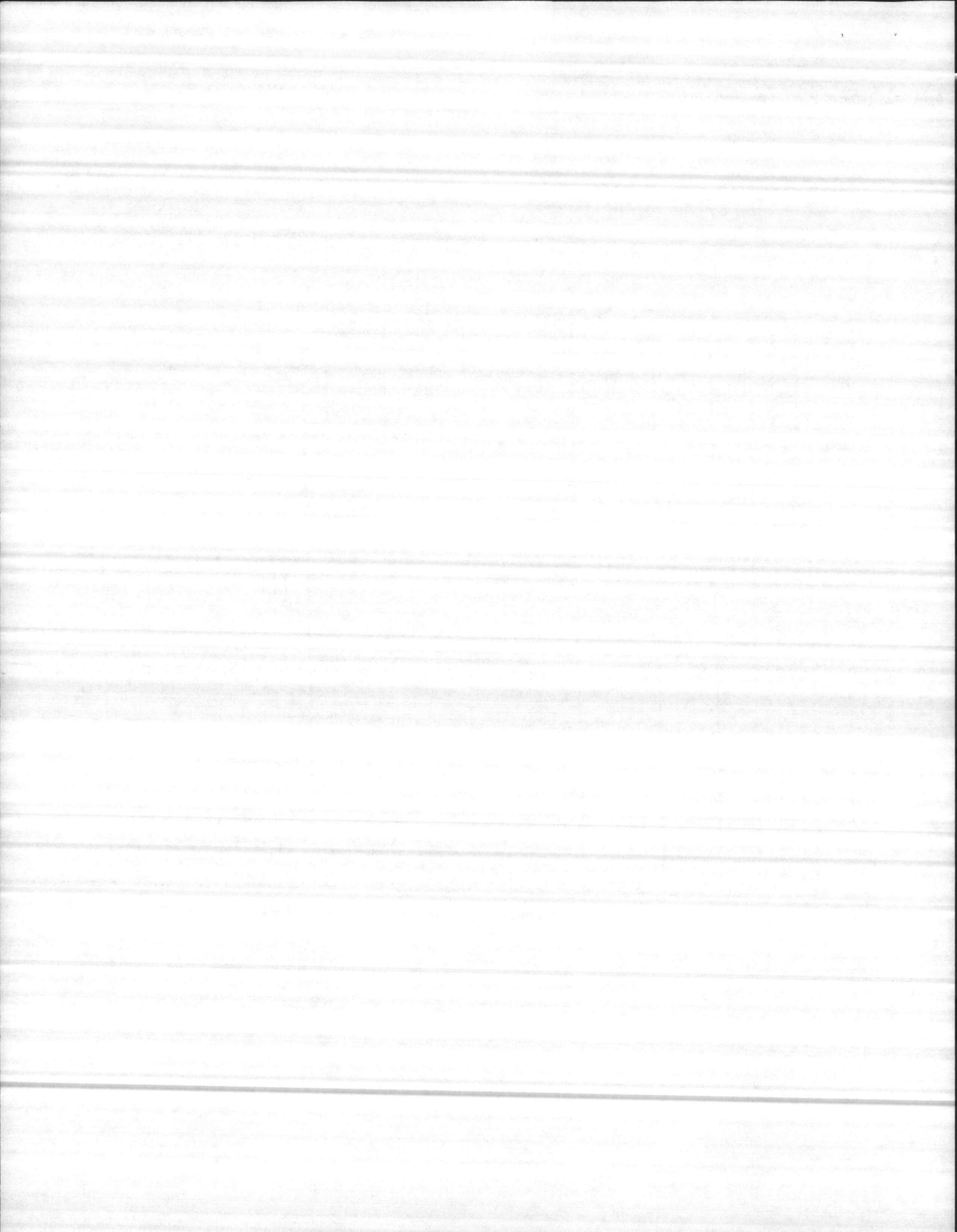
Notes: _____

Recommended Slot Opening: _____

Recommended Screen: Dia. _____ in. Length _____ Ft.

By: _____

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.





ANALYSIS (FINE)

MAILING ADDRESS: P.O. BOX 43118
ST. PAUL, MINNESOTA ■ 55164

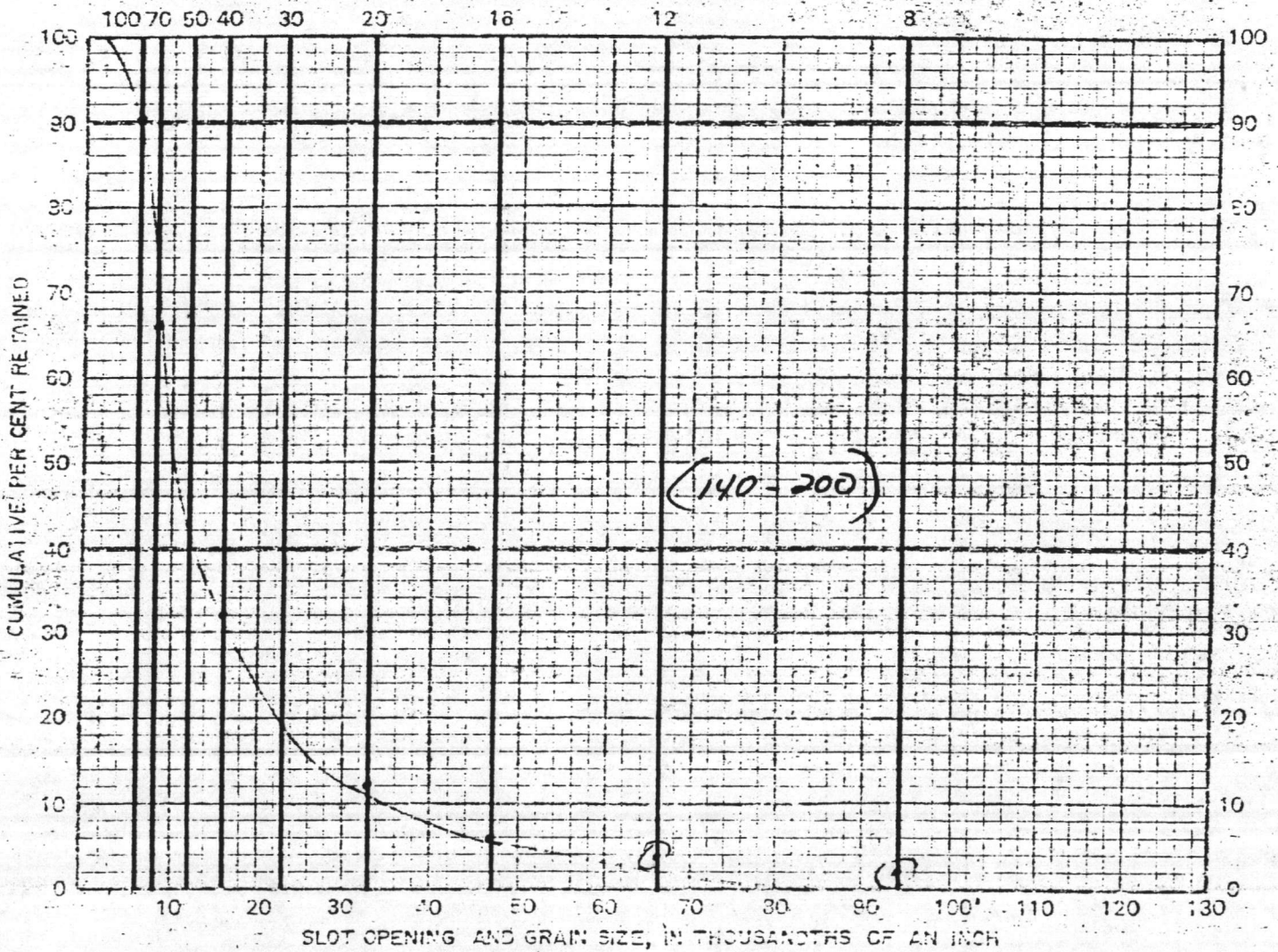
Sample sent in by _____

Town _____ State _____ Zip _____ Date _____

From well of _____

Remarks: BB-43

U.S. STANDARD SIEVE NUMBERS



SIEVE NO.	SIEVE OPENING		CUMULATIVE % RETAINED
	INCHES	MM	
6	.132	3.36	
8	.094	2.38	
12	.066	1.68	
16	.047	1.19	
20	.033	0.84	
30	.023	0.60	
40	.016	0.42	
50	.012	0.30	
70	.008	0.21	
100	.006	0.15	

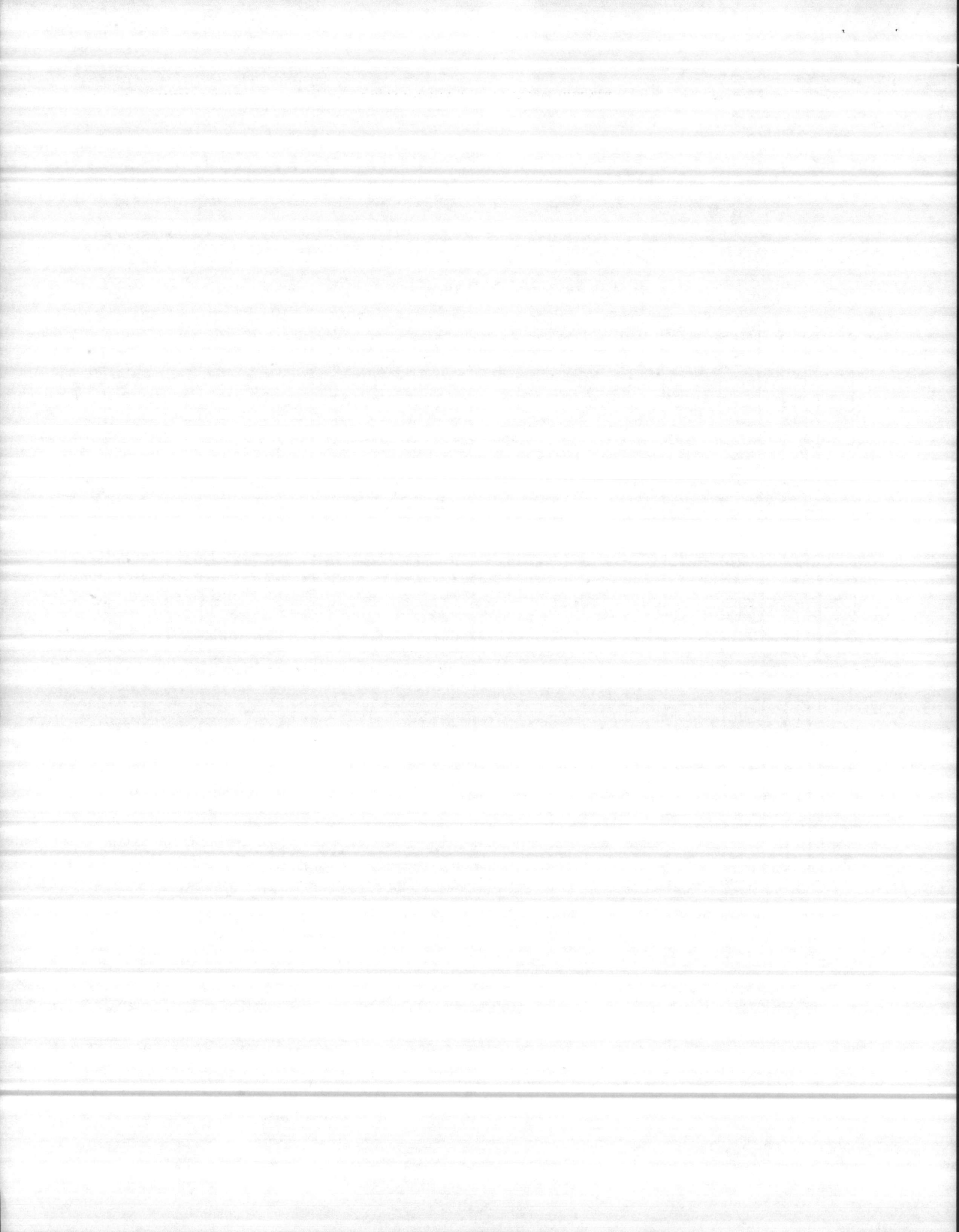
Notes: _____

Recommended Slot Opening: _____

Recommended Screen: Dia. _____ in. Length _____ Ft.

By: _____

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.



"Hello Analytic, Goodbye"

WATER ANALYSIS LABORATORY

-802 HAMLET HIGHWAY
BENNETTSVILLE, SOUTH CAROLINA
29512

(803) 479-4639

CONSULTANTS FOR:
INDUSTRY
MUNICIPALITIES
HOME OWNERS
DEVELOPERS
IRRIGATION
OTHERS

DATE: June 25, 1983

Contract N62470-82-C-4551

Report To: Carolina Well & Pump Co.
Sanford, N. C.

Date Analyzed: 6/25/83

Sample Number: Top Sample 45'

B/B 43

Analysis Results--Parts Per Million

Determination

pH	<u>7.1</u>
Iron (Fe)	<u>0.15</u>
Nitrate (NO ₃)	<u>Trace</u>
Fluoride (F)	<u>0.5</u>
Manganese (Mn)	<u>Trace</u>
Total Hardness (CaCO ₃)	<u>173</u>
Chlorides (Cl)	<u>14</u>
Sulfate (SO ₄)	<u>12.3</u>
Phosphate (PO ₄)	<u>0</u>
Magnesium (Mg)	<u>3.8</u>
Calcium (Ca)	<u>62.8</u>
Carbonate (CO ₃)	<u>0</u>
Bicarbonate (HCO ₃)	<u>195</u>
Hydroxide (OH)	<u>0</u>

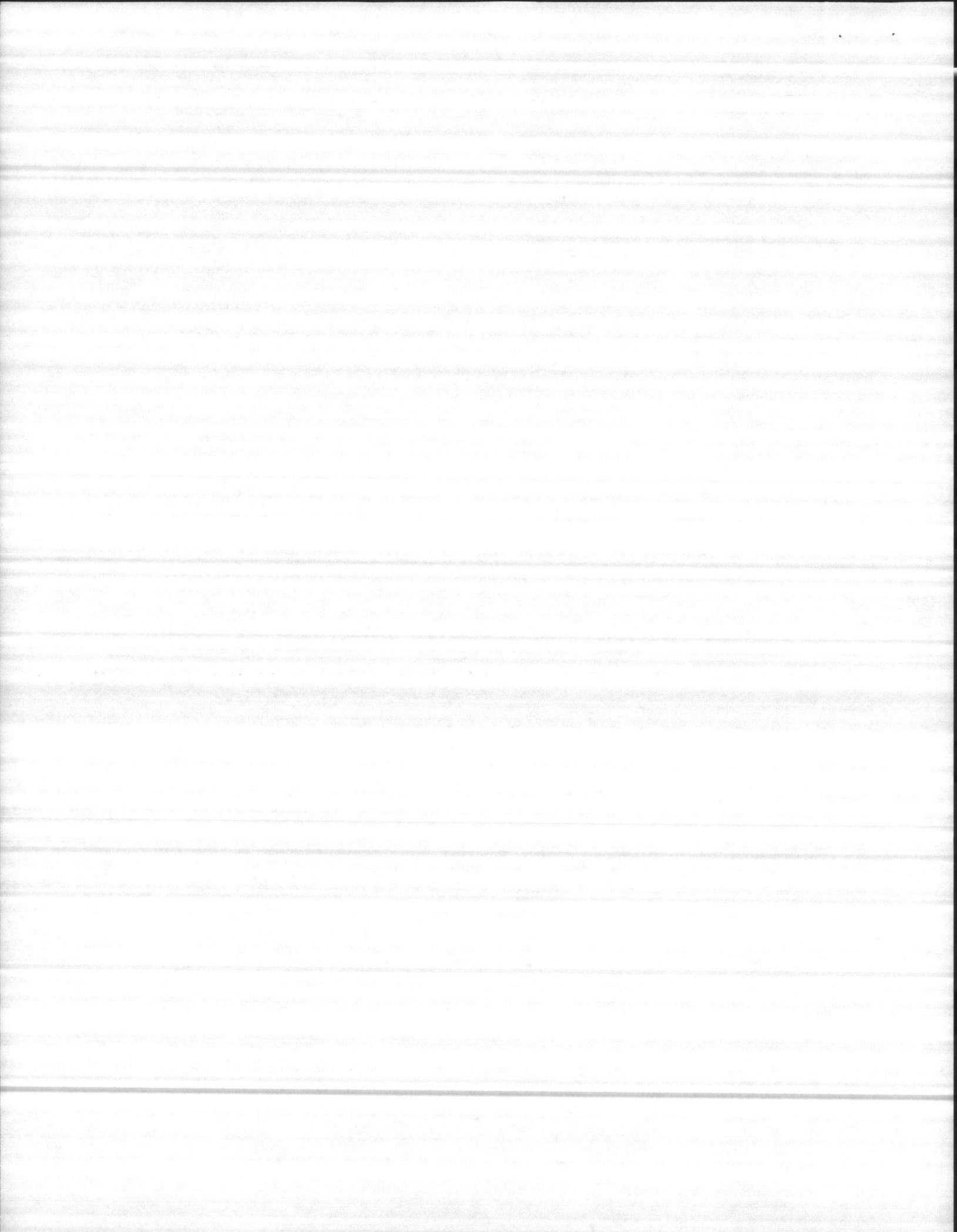
Determination

Carbon Dioxide (CO ₂)	<u>2</u>
Total Acidity (CaCO ₃)	<u>4</u>
Calcium Hardness (CaCO ₃)	<u>157</u>
Magnesium Hardness (CaCO ₃)	<u>16</u>
Carbonate Hardness (CaCO ₃)	<u>160</u>
Noncarbonate Hardness (CaCO ₃)	<u>13</u>
Alkalinity (Phenolphthalein) (CaCO ₃)	<u>0</u>
Carbonate Alkalinity (CaCO ₃)	<u>0</u>
Bicarbonate Alkalinity (CaCO ₃)	<u>160</u>
Total Alkalinity (CaCO ₃)	<u>160</u>
Total Dissolved Solids	<u>252</u>
Specific Conductance (micromhos at 25°)	<u>360</u>
Appearance When Analyzed	<u>Clear</u>
Odor When Analyzed	<u>Not Objectionable</u>

SIGNED: _____

LABORATORY DIRECTOR

ANALYTICAL METHODS REFERENCES: 'STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE-WATER,' APHA, AWWA AND WPCF AND 'METHODS FOR COLLECTION AND ANALYSIS OF WATER SAMPLES,' WATER SUPPLY PAPER 1434 (1960), U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C.



WATER ANALYSIS LABORATORY

802 HAMLET HIGHWAY
BENNETTSVILLE, SOUTH CAROLINA
29512

CONSULTANTS FOR:
INDUSTRY
MUNICIPALITIES
HOME OWNERS
DEVELOPERS
IRRIGATION
OTHERS

(RR3) 479-4639

DATE: June 25, 1983

Report To: Carolina Well & Pump Co.
Sanford, N. C.

Date Analyzed: 6/25/83
Sample Number: Bottom Sample 115'
AB 43

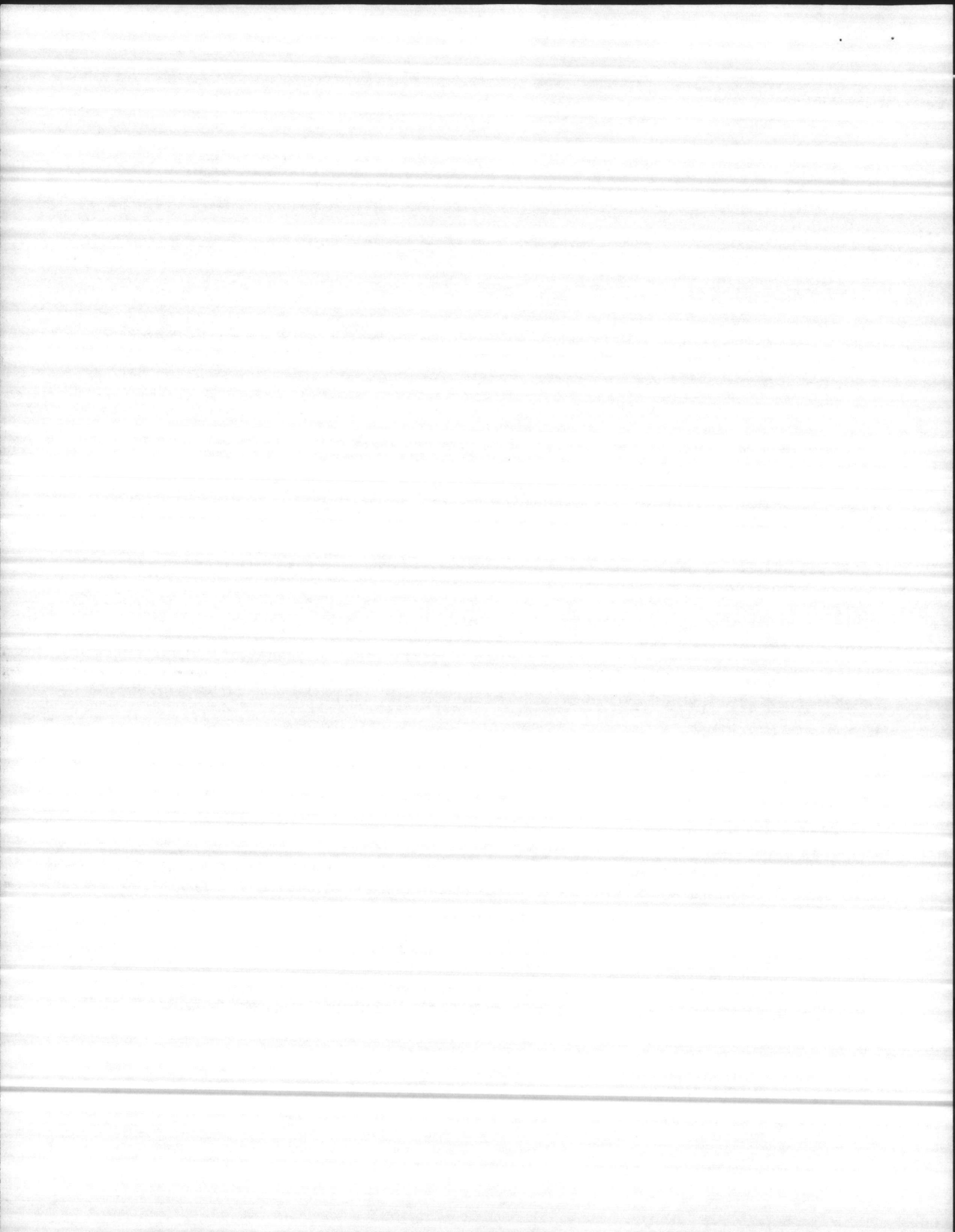
Analysis Results--Parts Per Million

<u>Determination</u>		<u>Determination</u>	
pH	<u>6.8</u>	Carbon Dioxide (CO ₂)	<u>5</u>
Iron (Fe)	<u>0.1</u>	Total Acidity (CaCO ₃)	<u>8</u>
Nitrate (NO ₃)	<u>Trace</u>	Calcium Hardness (CaCO ₃)	<u>165</u>
Fluoride (F)	<u>0.4</u>	Magnesium Hardness (CaCO ₃)	<u>29</u>
Manganese (Mn)	<u>Trace</u>	Carbonate Hardness (CaCO ₃)	<u>158</u>
Total Hardness (CaCO ₃)	<u>194</u>	Noncarbonate Hardness (CaCO ₃)	<u>36</u>
Chlorides (Cl)	<u>16</u>	Alkalinity (Phenolphthalein) (CaCO ₃)	<u>0</u>
Sulfate (SO ₄)	<u>6.4</u>	Carbonate Alkalinity (CaCO ₃)	<u>0</u>
Phosphate (PO ₄)	<u>0</u>	Bicarbonate Alkalinity (CaCO ₃)	<u>158</u>
Magnesium (Mg)	<u>7.2</u>	Total Alkalinity (CaCO ₃)	<u>158</u>
Calcium (Ca)	<u>66</u>	Total Dissolved Solids	<u>224</u>
Carbonate (CO ₃)	<u>0</u>	Specific Conductance (micromhos at 25°)	<u>320</u>
Bicarbonate (HCO ₃)	<u>193</u>	Appearance When Analyzed	<u>Clear</u>
Hydroxide (OH)	<u>0</u>	Odor When Analyzed	<u>Not Objectionable</u>

Walter S. ...
802 Hamlet Highway

SIGNED: _____
LABORATORY DIRECTOR

ANALYTICAL METHODS REFERENCES: 'STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE-WATER,' APHA, AWWA AND WPCF AND 'METHODS FOR COLLECTION AND ANALYSIS OF WATER SAMPLES,' WATER SUPPLY PAPER 1454 (1980), U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C.



EAST COAST CONSTRUCTION COMPANY, INC.

GENERAL CONTRACTORS

Post Office Box 5004

JACKSONVILLE, NORTH CAROLINA 28540

CAMP LEJEUNE

BB 43

June 17, 1983

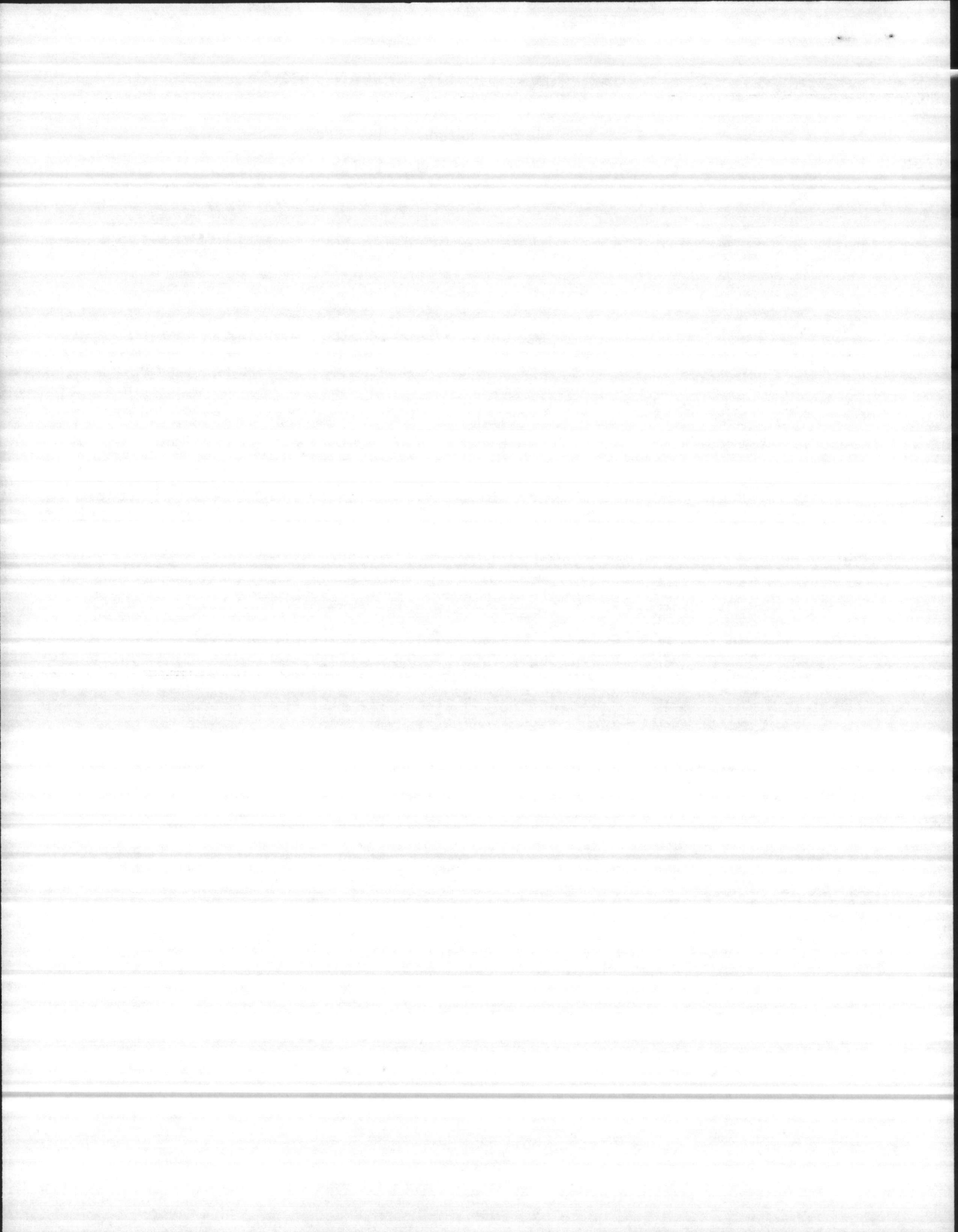
REJECTED REVISE AND RESUBMIT
 REVIEWED FURNISH AS CORRECTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This review is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

enwright associates
Greenville, South Carolina

Date 8-15-83 By A.L.L.

- 0 - 10 very fine white sand
- 10 - 20 fine gray sand, some clay
- 20 - 30 fine gray sand, some clay and shale
- 30 - 40 fine to medium sand with shale and rock fragments
- 40 - 50 mostly shale with fine sand
- 50 - 60 large, mostly shale, some rock and sand
- 60 - 70 large rock, shells, sand
- 70 - 80 very fine gray uniform sand
- 80 - 90 shale, shells, fine sand, some clay
- 90 - 100 shale, shells, fine sand, some clay
- 100 - 110 shale, some sand, some clay
- 110 - 120 large rock fragments, fine sand, shale
- 120 - 130 rock fragments, shale, sand
- 130 - 140 sand, rock fragments, sand, clay
- 140 - 200 very fine, uniform gray sand



RECEIVED

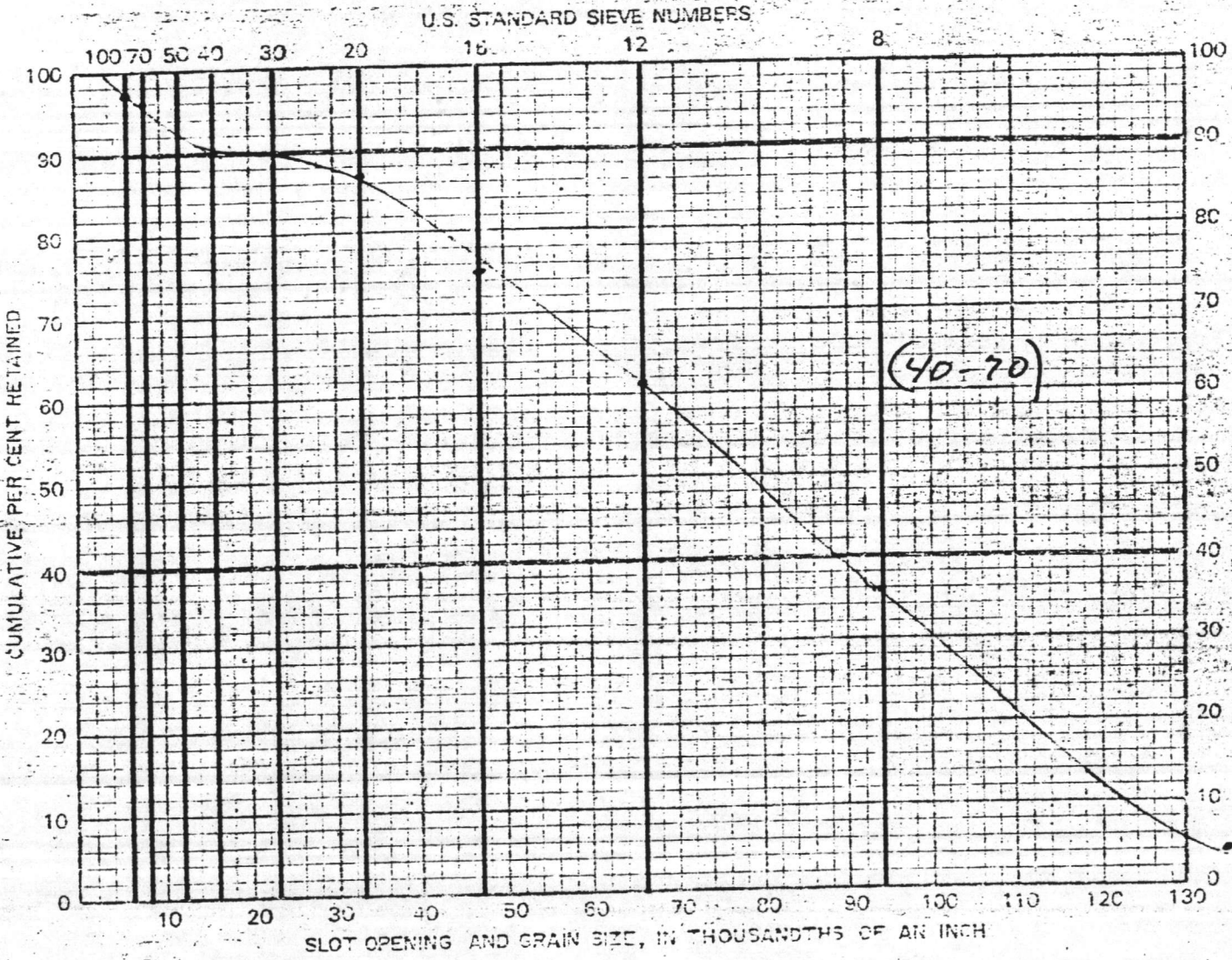
MAILING ADDRESS: P O BOX 43118
ST. PAUL, MINNESOTA • 55164

Johnson Inc.

Contract N62470-82-C-4551

Sample sent in by _____
Town _____ State _____ Zip _____ Date 6-27-83

From well of _____
Remarks: Well BB-43 Camp Lejeune, NC
For Gravel Pack Selection



U.S. SIEVE NO.	SIEVE OPENING (INCHES)	SIEVE OPENING (MM)	CUMULATIVE PER CENT RETAINED
6	.132	3.36	
8	.094	2.38	
12	.066	1.65	
16	.047	1.19	
20	.033	.84	
30	.023	.60	
40	.016	.42	
50	.012	.30	
70	.008	.21	
100	.006	.15	

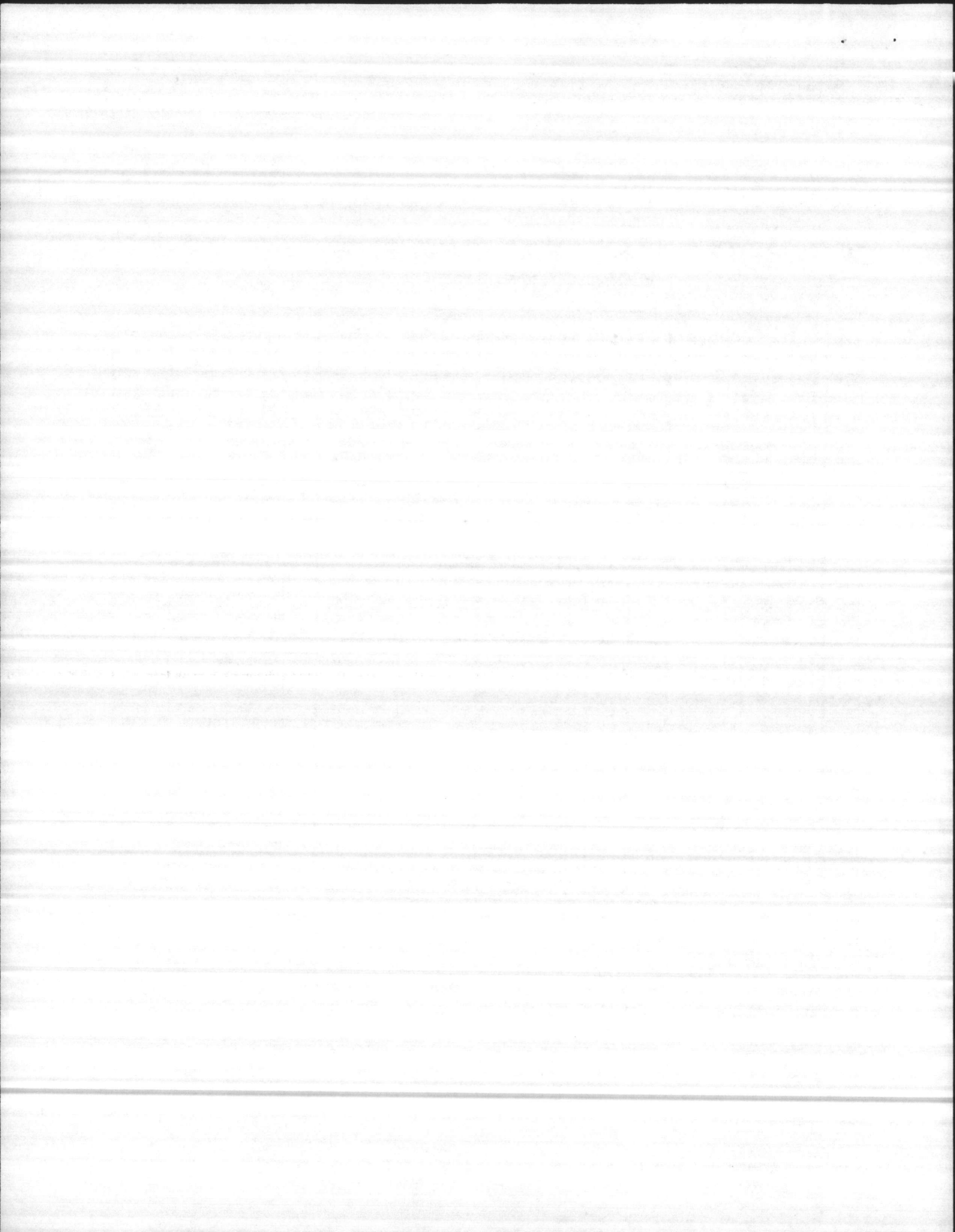
Notes: _____

Recommended Slot Opening: _____

Recommended Screen: Dia. _____ in. Length _____ Ft.

By: BPV

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.

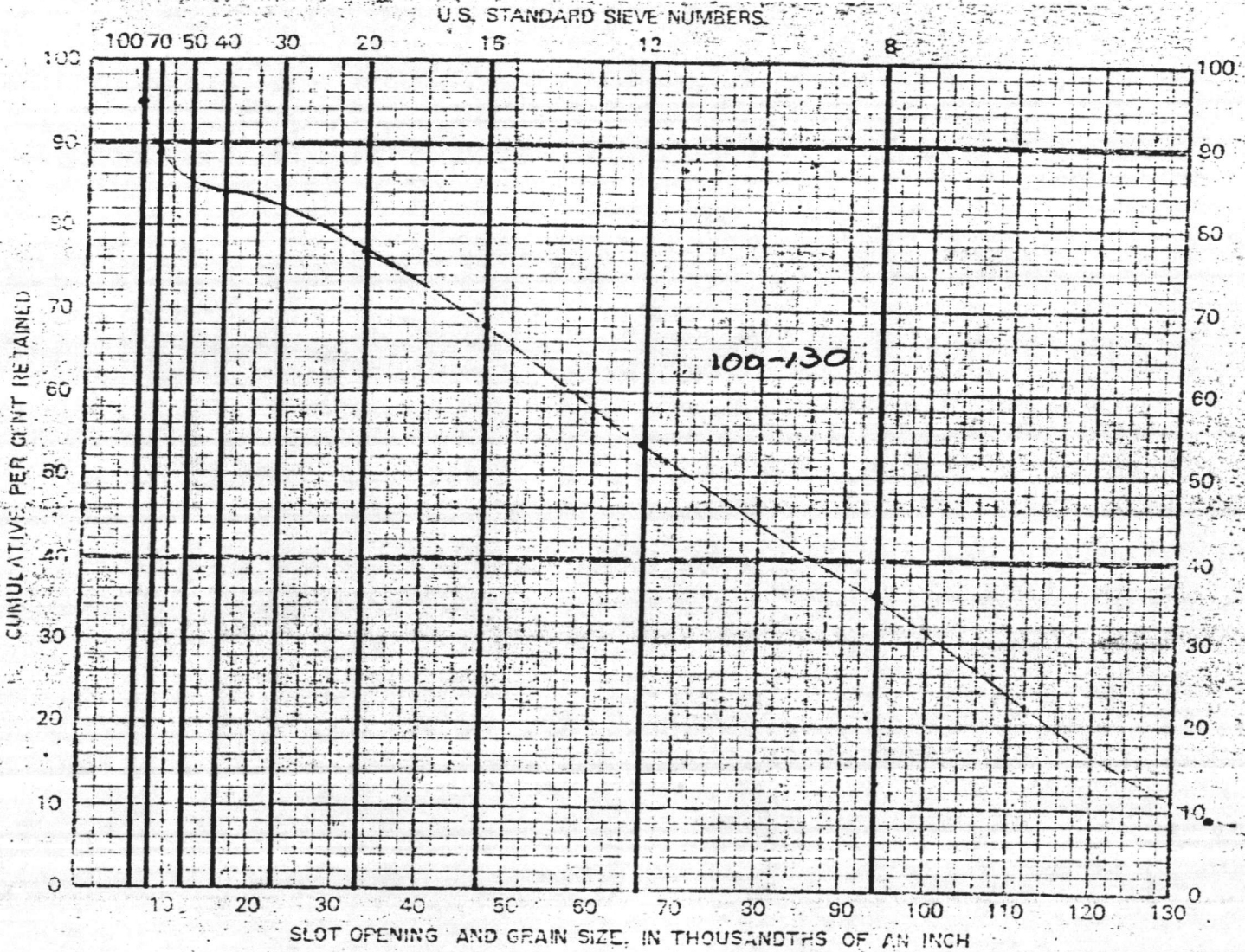


Sample sent in by _____

Town _____ State _____ Zip _____ Date _____

From well of _____

Remarks: BB-43 Camp LeJeune NYC



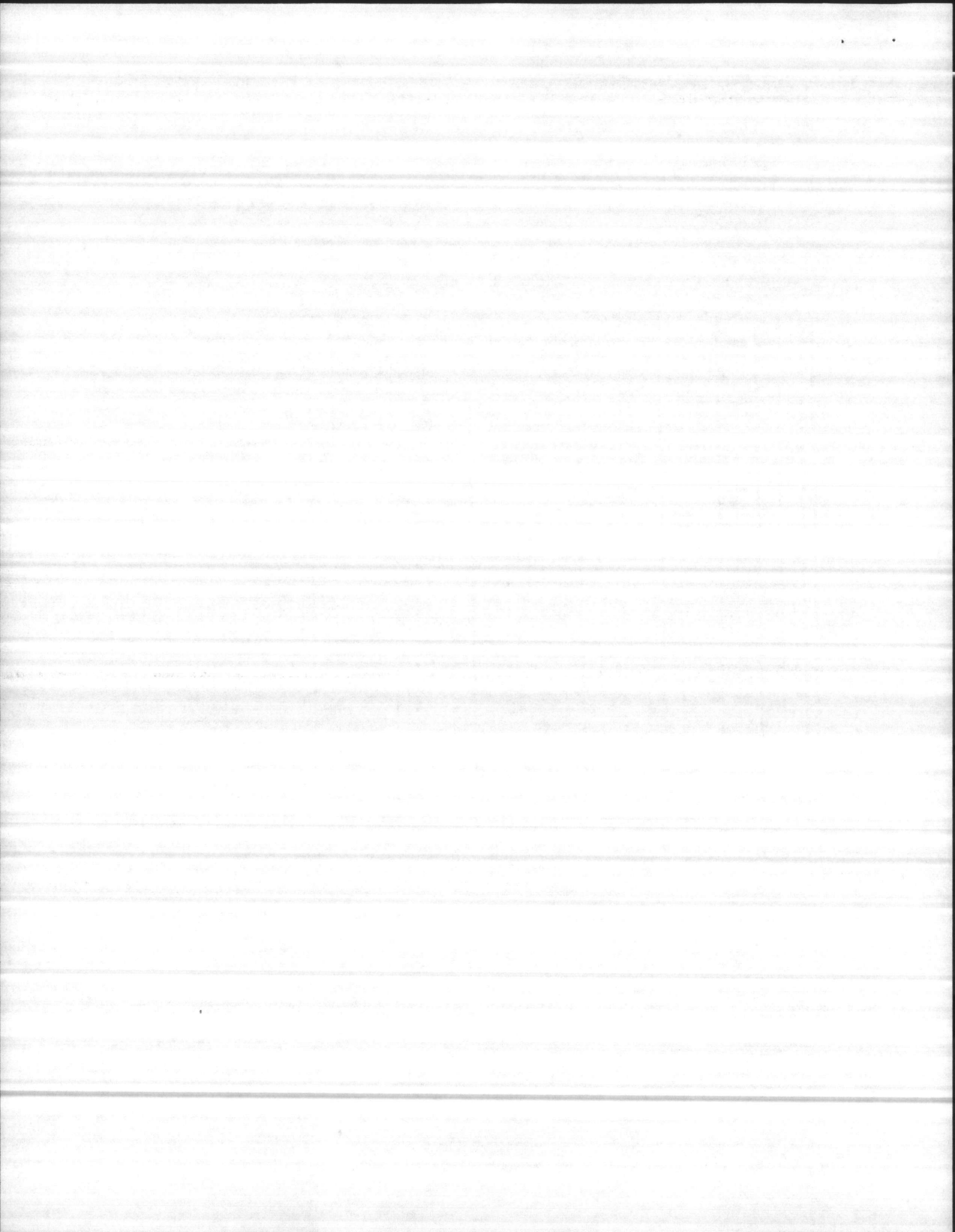
SIEVE	SLOT OPENING		CUMULATIVE PERCENT RETAINED
NO.	INCHES	MM	
6	2.36	3.35	
8	1.68	2.33	
12	.85	1.68	
16	.47	1.19	
20	.30	.94	
30	.23	.69	
40	.16	.42	
50	.12	.30	
70	.08	.21	
100	.06	.15	

Notes: _____

Recommended Slot Opening: _____

Recommended Screen: Dia. _____ in. Length _____ Ft.

By: _____

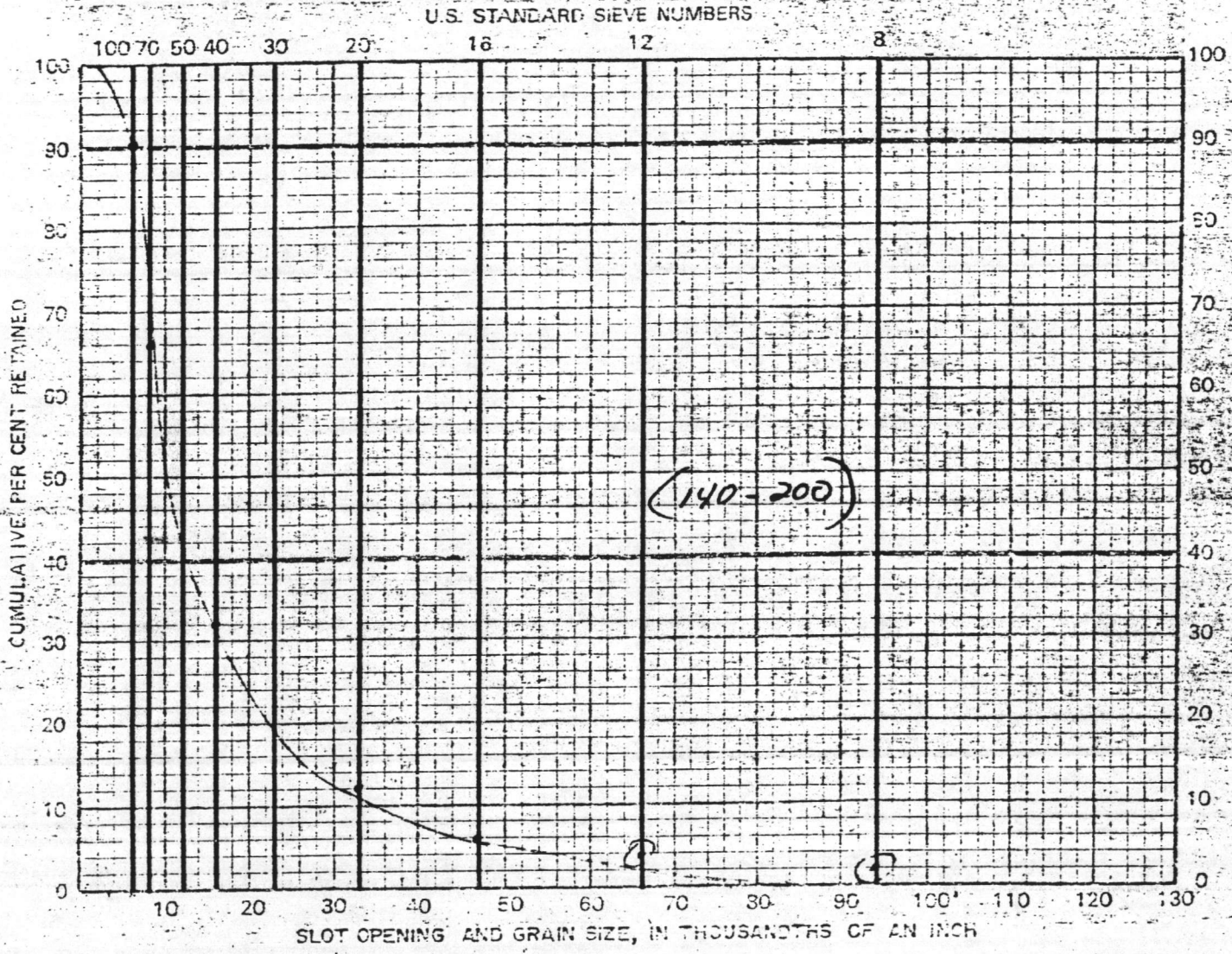


Sample sent in by _____

Town _____ State _____ Zip _____ Date _____

From well of _____

Remarks: BB-43



U.S. SIEVE NO.	SIEVE OPENING		CUMULATIVE % RETAINED
	INCHES	MM.	
6	.132	3.36	
8	.094	2.39	
12	.066	1.68	
16	.047	1.19	
20	.033	0.84	
30	.023	0.60	
40	.016	0.42	
50	.012	0.30	
70	.008	0.21	
100	.006	0.15	

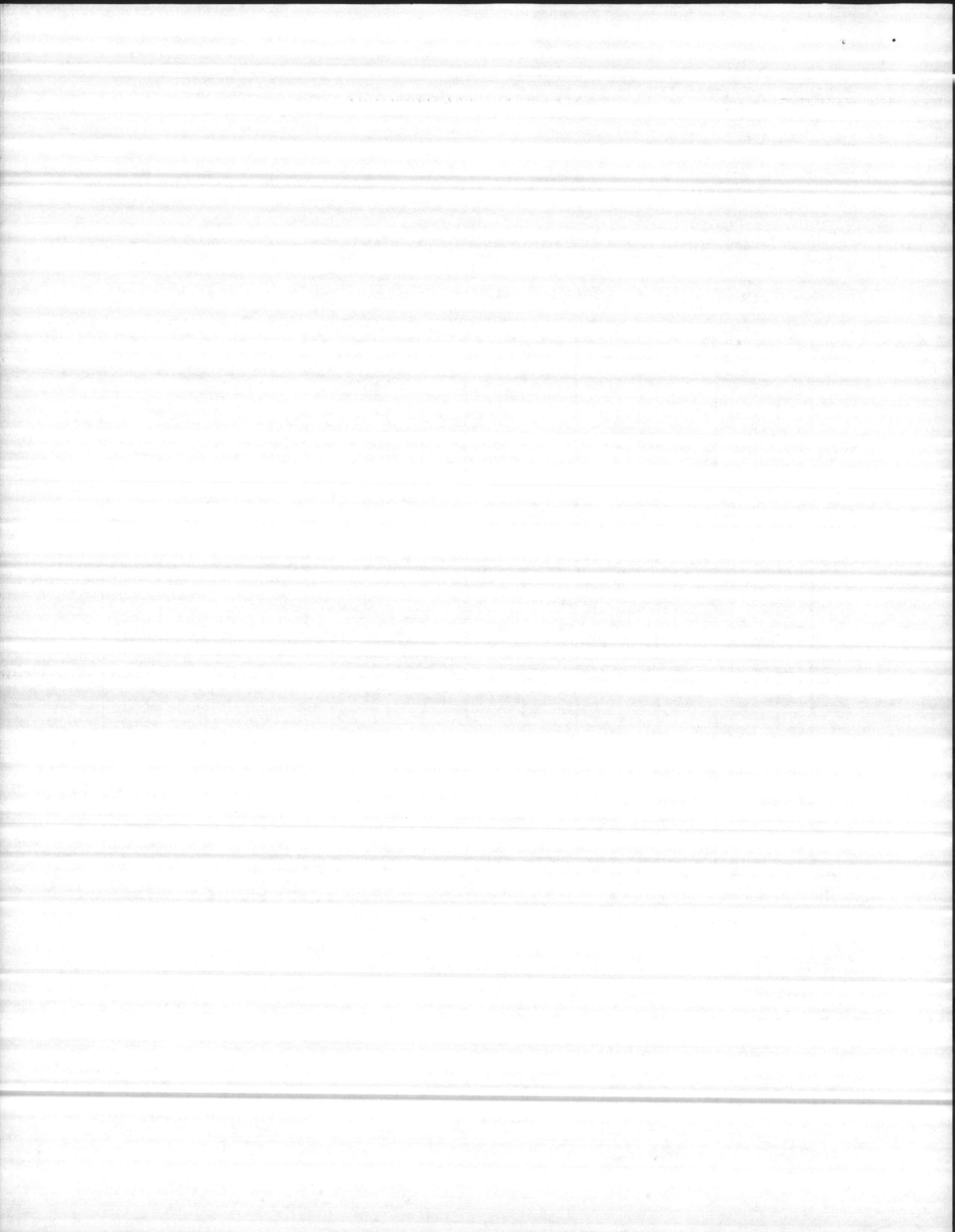
Notes: _____

Recommended Slot Opening: _____

Recommended Screen: Dia. _____ in. Length _____ Ft.

By: _____

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.



WATER ANALYSIS LABORATORY

802 HAMLET HIGHWAY
BENNETTSVILLE, SOUTH CAROLINA
29312

CONSULTANTS FOR:
INDUSTRY
MUNICIPALITIES
HOME OWNERS
DEVELOPERS
IRRIGATION
OTHERS

(RQ3) 479-4639

DATE: June 25, 1983

Contract N62470-82-C-4551

Report To: Carolina Well & Pump Co.
Senford, N. C.

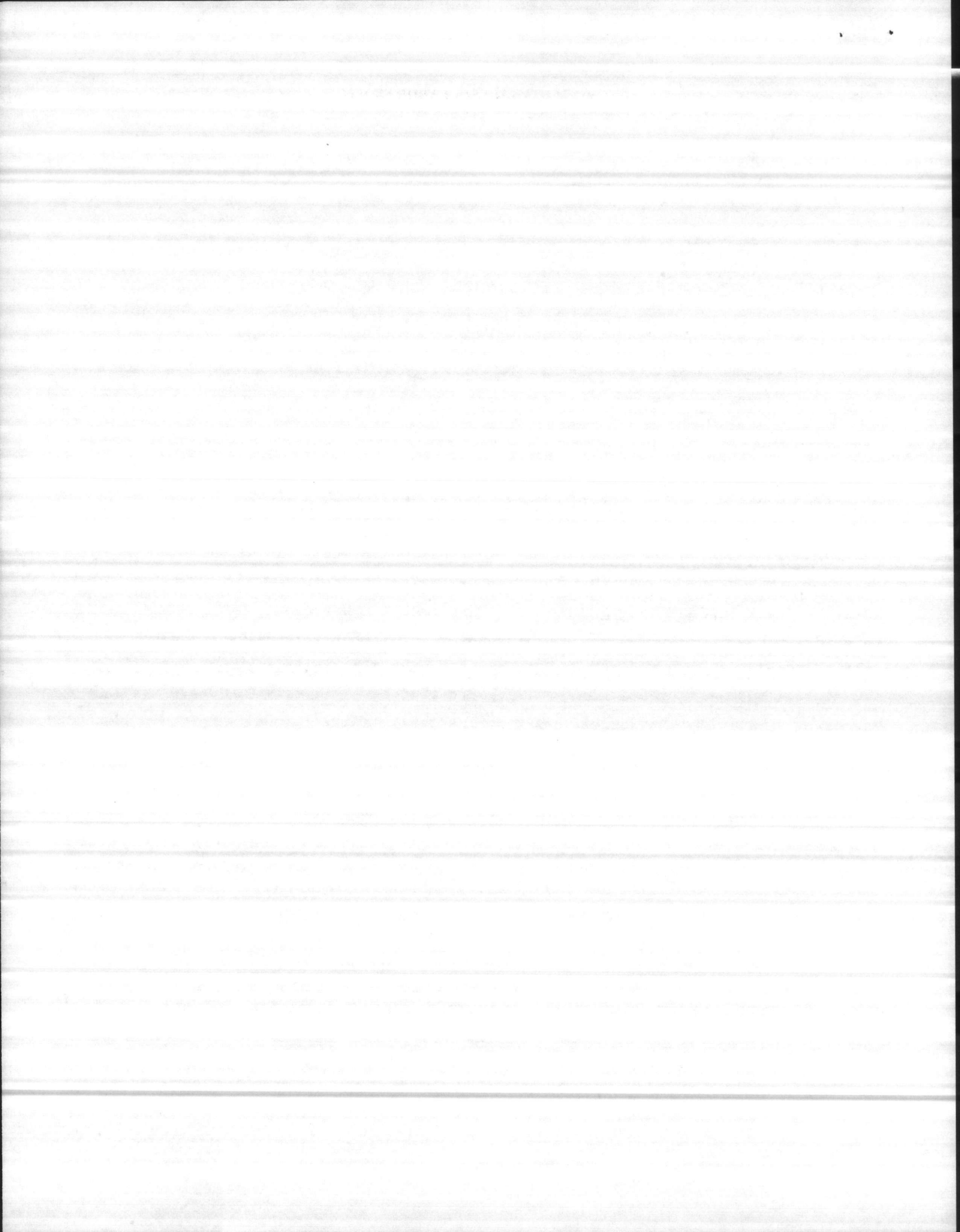
Date Analyzed: 6/25/83
Sample Number: Top Sample 45'
POB 43

Analysis Results--Parts Per Million

<u>Determination</u>		<u>Determination</u>	
pH	<u>7.1</u>	Carbon Dioxide (CO ₂)	<u>2</u>
Iron (Fe)	<u>0.15</u>	Total Acidity (CaCO ₃)	<u>4</u>
Nitrate (NO ₃)	<u>Trace</u>	Calcium Hardness (CaCO ₃)	<u>157</u>
Fluoride (F)	<u>0.5</u>	Magnesium Hardness (CaCO ₃)	<u>16</u>
Manganese (Mn)	<u>Trace</u>	Carbonate Hardness (CaCO ₃)	<u>160</u>
Total Hardness (CaCO ₃)	<u>173</u>	Noncarbonate Hardness (CaCO ₃)	<u>13</u>
Chlorides (Cl)	<u>14</u>	Alkalinity (Phenolphthalein) (CaCO ₃)	<u>0</u>
Sulfate (SO ₄)	<u>12.3</u>	Carbonate Alkalinity (CaCO ₃)	<u>0</u>
Phosphate (PO ₄)	<u>0</u>	Bicarbonate Alkalinity (CaCO ₃)	<u>160</u>
Magnesium (Mg)	<u>3.8</u>	Total Alkalinity (CaCO ₃)	<u>160</u>
Calcium (Ca)	<u>62.8</u>	Total Dissolved Solids	<u>252</u>
Carbonate (CO ₃)	<u>0</u>	Specific Conductance (micromhos at 25°C)	<u>360</u>
Bicarbonate (HCO ₃)	<u>195</u>	Appearance When Analyzed	<u>Hazy</u>
Hydroxide (OH)	<u>0</u>	Odor When Analyzed	<u>Not Objectionable</u>

SIGNED: [Signature]
LABORATORY DIRECTOR

ANALYTICAL METHODS REFERENCES: 'STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE-WATER,' APHA, AWWA AND WPCF AND 'METHODS FOR COLLECTION AND ANALYSIS OF WATER SAMPLES,' WATER SUPPLY PAPER 1454 (1960), U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C.



WATER ANALYSIS LABORATORY

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CONSULTANTS FOR:
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DEVELOPERS
IRRIGATION
OTHERS

(RR3) 479-4639

DATE: June 25, 1983

Report To: Carolina Well & Pump Co.
Sanford, N. C.

Date Analyzed: 6/25/83
Sample Number: Bottom Sample 115'
BB 43

Analysis Results--Parts Per Million

<u>Determination</u>		<u>Determination</u>	
pH	<u>6.8</u>	Carbon Dioxide (CO ₂)	<u>5</u>
Iron (Fe)	<u>0.1</u>	Total Acidity (CaCO ₃)	<u>8</u>
Nitrate (NO ₃)	<u>Trace</u>	Calcium Hardness (CaCO ₃)	<u>165</u>
Fluoride (F)	<u>0.4</u>	Magnesium Hardness (CaCO ₃)	<u>29</u>
Manganese (Mn)	<u>Trace</u>	Carbonate Hardness (CaCO ₃)	<u>158</u>
Total Hardness (CaCO ₃)	<u>194</u>	Noncarbonate Hardness (CaCO ₃)	<u>36</u>
Chlorides (Cl)	<u>16</u>	Alkalinity (Phenolphthalein) (CaCO ₃)	<u>0</u>
Sulfate (SO ₄)	<u>6.4</u>	Carbonate Alkalinity (CaCO ₃)	<u>0</u>
Phosphate (PO ₄)	<u>0</u>	Bicarbonate Alkalinity (CaCO ₃)	<u>158</u>
Magnesium (Mg)	<u>7.2</u>	Total Alkalinity (CaCO ₃)	<u>158</u>
Calcium (Ca)	<u>66</u>	Total Dissolved Solids	<u>224</u>
Carbonate (CO ₃)	<u>0</u>	Specific Conductance (micromhos at 25°)	<u>320</u>
Bicarbonate (HCO ₃)	<u>193</u>	Appearance When Analyzed	<u>Clear</u>
Hydroxide (OH)	<u>0</u>	Odor When Analyzed	<u>Not Objectionable</u>

Walter S. ...
802 Hamlet Highway

SIGNED _____
LABORATORY DIRECTOR

ANALYTICAL METHODS REFERENCES: 'STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE-WATER,' APHA, AWWA AND WPCF AND 'METHODS FOR COLLECTION AND ANALYSIS OF WATER SAMPLES,' WATER SUPPLY PAPER 1454 (1960), U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C.

