

**DEARBORN AQUA-SERV of Wilson, North Carolina, Inc.**

P. O. Box 3897 • Wilson, North Carolina 27893 • Phone (919) 291-0672

Scientific Water Treatment  
Chemicals & Equipment

February 27, 1979

Mr. Lanier, Utilities Superintendent  
Camp Lejeune, MCB  
Base Maintenance Department  
Utilities Division  
Camp Lejeune, North Carolina 28542

Sir:

Enclosed is an analysis of moist brown flakes of scale removed from Boiler No. 16 at New River. This sample, as we discussed, contains 86.4 percent iron. Calcium was 0.9 percent. As you can see from this, the majority of the scale which is causing the overall problems at your entire power plant operation is iron. This iron is coming from improperly treated condensate systems, which is reflected in another analysis of a condensate line plugged with 86.1 percent iron. We need to immediately initiate a condensate return line treatment consisting of Dearborn B-212 and Dearborn Super Filmeen 14 for control of this iron and corrosion which we are receiving from the condensate systems. Once this problem is cleared up, we can better evaluate where any and all additional iron may be coming from.

The iron sample was found to be magnetic. Of course, we do not like to see magnetic iron in your boiler systems. We would like to see this problem identified as to where the magnetic iron is coming from.

We trust the above comments are identifiable as to the operations at your power stations. If any questions arise, or if we can be of any further service, please feel free to contact this office.

Sincerely,

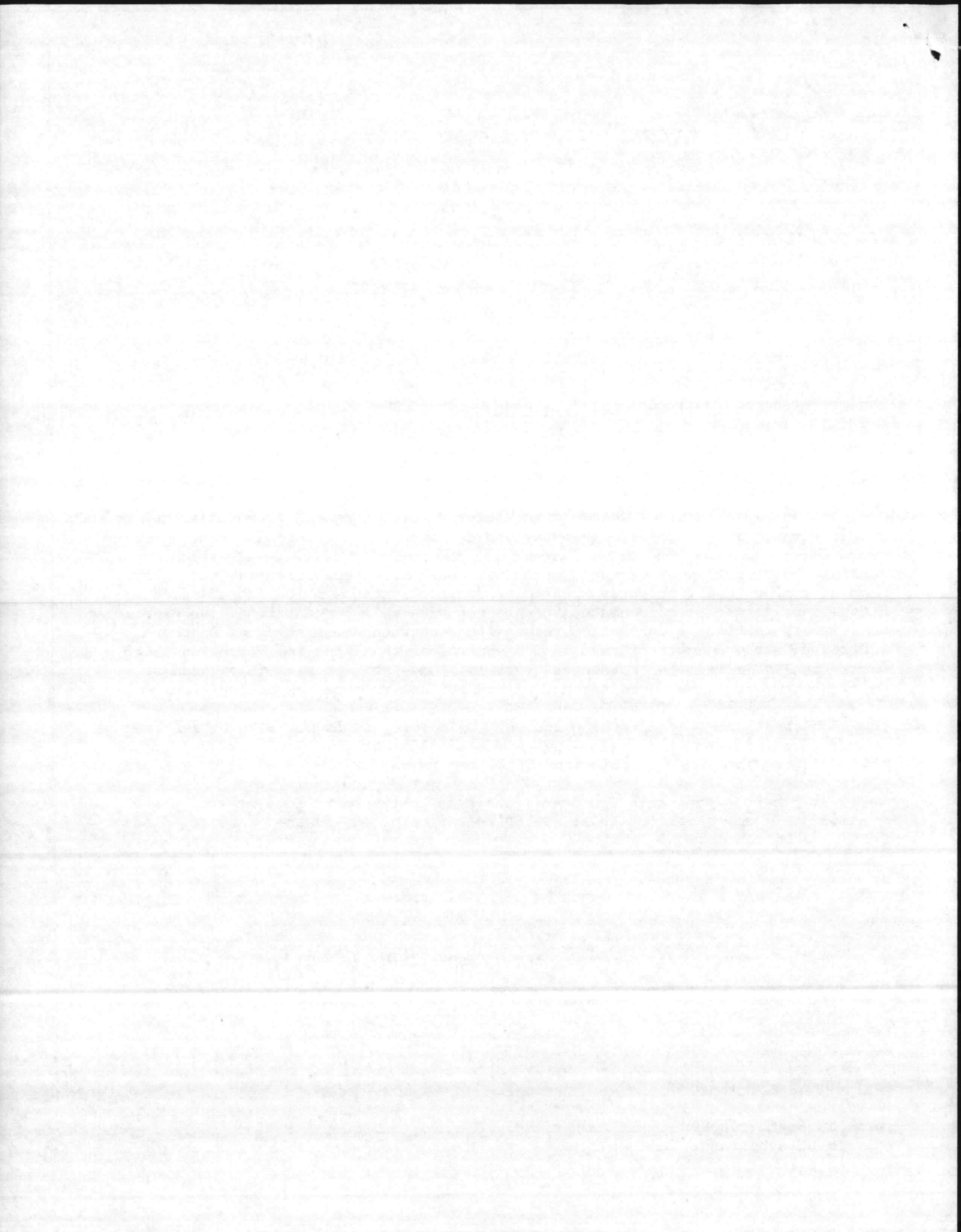
DEARBORN AQUA-SERV

Rudy L. Pittman  
President

RLP/csb

Enclosure

cc: Mr. Weatherington  
Mr. Southerland



**DUREBOHN  
CHEMICAL  
(U.S.)**

LABORATORIES  
CHEMED CORPORATION

100 GENESEE STREET • LAKE ZURICH, ILLINOIS 60047  
TELEPHONE 312/433-8241

Company D.A.S. of Wilson

Location Wilson, N.C.

Equipment in which deposit was found

sample #1925

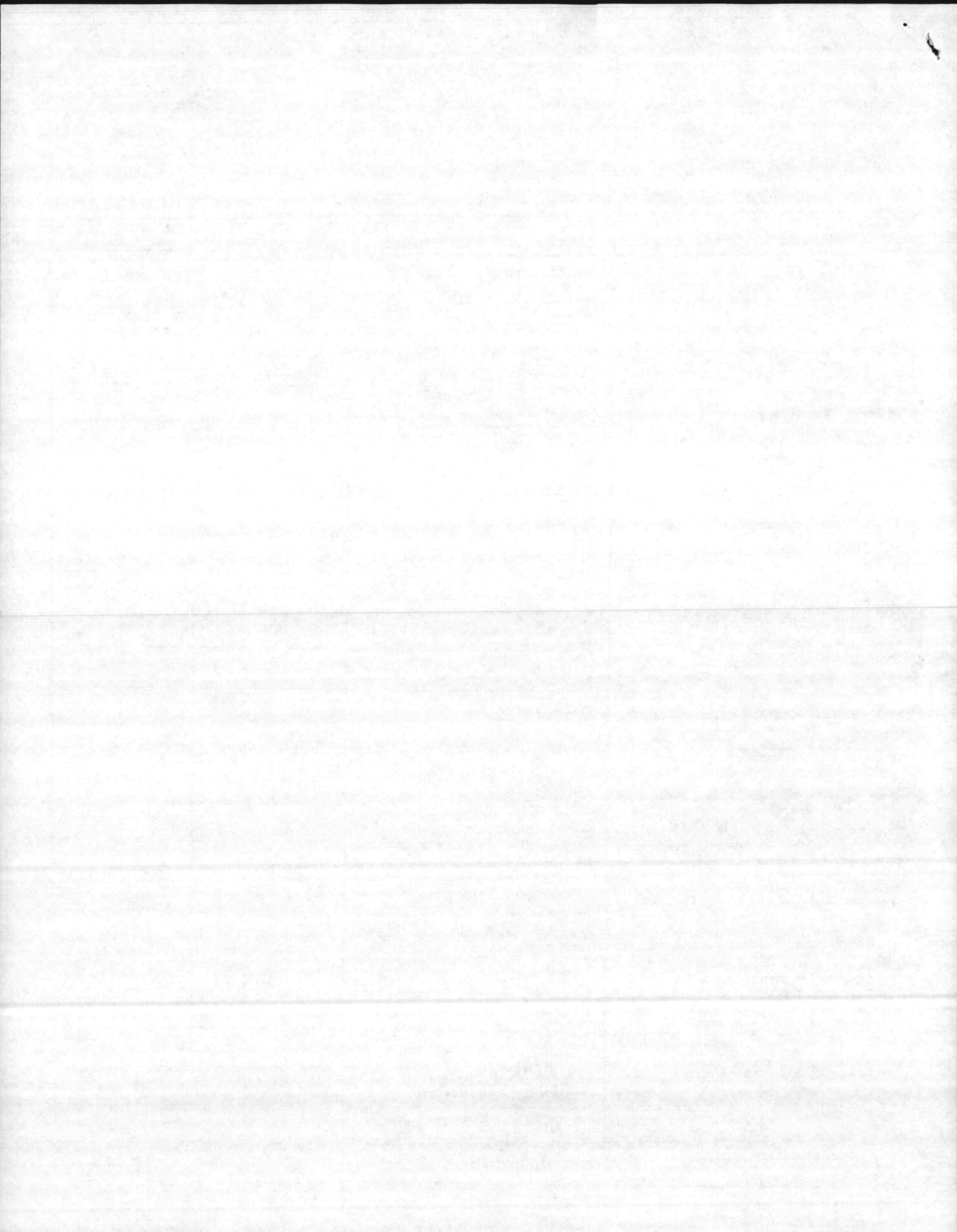
Date collected 1/24/79

Date rec'd in lab 1/31/79

## REPORT OF DEPOSIT ANALYSIS

		PERCENT	EQUIVALENTS
Date	2/6/79	ZINC as ZnO	None
Laboratory no.	49000	COPPER as CuO	None
Ref. Init.	TM/fh	NICKEL as NiO	None
Sample	Jones 32-001	IRON as Fe <sub>2</sub> O <sub>3</sub>	86.4 3.30
Physical properties and appearance		MANGANESE as MnO <sub>2</sub>	None
moist brown flakes		CHROMIUM as Cr <sub>2</sub> O <sub>3</sub>	None
		VANADIUM as V <sub>2</sub> O <sub>5</sub>	None
		TITANIUM as TiO <sub>2</sub>	None
Chloroform extractable	%	CALCIUM as CaO	0.9 0.01
Description	The qualitative test	POTASSIUM as K <sub>2</sub> O	None
did not indicate the presence		CHLORIDE as Cl	None
of organic material.		SULFATE as SO <sub>3</sub>	1.6 0.05
Remarks: This analysis was performed on a		TOTAL PHOSPHATE and PHOSPHORUS as P <sub>2</sub> O <sub>5</sub>	0.5 0.01
sample which had been oven dried at 105°C.		SILICA as SiO <sub>2</sub>	3.2 0.15
This sample was found to be		ALUMINUM as Al <sub>2</sub> O <sub>3</sub>	None
magnetic		MAGNESIUM as MgO	1.9 0.04
		SODIUM as Na <sub>2</sub> O	None
		STRONTIUM as SrO	None
		CARBONATE as CO <sub>2</sub>	None
		IGNITION LOSS (Org., H <sub>2</sub> O, etc.)	3.3
		UNDETERMINED	3.1
		TOTAL	100.0

Equivalents = per-cent



DATE OF INSPECTION  
 29 NOV 1978

TYPE OF INSPECTION  
 A  INTERNAL & EXTERNAL B  INTERNAL & EXTERNAL WITH PRESSURE TEST C  OPERATIONAL

1. FROM  
 BASE MAINT. OFFICER CAMP LEJEUNE N.C.  
 2. TO

14. CERTIFICATE ISSUED  YES  NO  
 EXPIRES 30 JUNE 1979  
 15. BOILER INSPECTOR

Commandant Higgins MARINE CORPS (CODED)

*James F. Sellen*  
 NAVY OR NATIONAL BOARD NO.

BOILER DATA

16. REASON FOR NOT ISSUING CERTIFICATE  
 NAVFAC 225

3. MANUFACTURER  
 TRANE

4. PROPERTY NO. 16  
 5. MFG. SERIAL NO. 10735  
 6. MFG. MODEL NO. MCF2-51

7. BUILDING NO. AS 4151  
 8. YEAR BUILT 1976  
 9. CAPACITY 40,000 #/HR

10. FUEL (Check)  
 COAL  OIL  GAS  
 11. PRESSURE  
 DESIGNED 250 psi OPERATING 150 psi TEST - psi

12. FEED WATER TREATMENT  
 SATISFACTORY  UNSATISFACTORY  
 13. TYPE  
 WATER TUBE  FIRE TUBE  C. I.

17. BOILER USE  
 EXPORT  
 19. COMBUSTION  
 % CO<sub>2</sub> \_\_\_\_\_ % EXCESS O<sub>2</sub> \_\_\_\_\_

18. COMBUSTION CONTROL (Mfg. Name)  
 HAGAN  
 20. FLUE GAS TEMPERATURE  
 AFTER BOILER \_\_\_\_\_ °F : AFTER HEAT TRAP \_\_\_\_\_ °F

SAFETY DEVICES  
 SAFETY VALVES

21. MANUFACTURER Consolidated  
 22. NUMBER AND SIZE 2 - 2 1/2"  
 23. PSI SETTING 165-170  
 24. CONDITION GOOD

STEAM PRESSURE GAUGE

25. MANUFACTURER ASHCROFT  
 26. CORRECTIONS  
 WATER LEG CONSTANT \_\_\_\_\_ psi; OTHER \_\_\_\_\_ psi  
 27. REASON IF NOT TESTED

FIRING EQUIPMENT

ITEM	IN SERVICE	ALTERNATE
28. MANUFACTURER	PEABODY ENGINEERING CO.	NONE
29. TYPE	GUN & NOZZLE - STEAM ATOM	
30. FUEL GRADE	#6	
31. INSPECTOR'S COMMENTS		

OK

32. ATTACHMENT(S) (Check)  
 COPY OF INSPECTOR'S REPORT  SPECIAL COMMENTS

33. SIGNATURE  
*R.M. Sellen*  
 BY DIRECTION



BOILER INSPECTION CHECK LIST

LOCATION	BLDG NO.	BOILER NO.	DATE
MCA S	AS4151	16	29 NOV 78
BOILER MFG. TRANE CO   O. PRESS 150   D. PRESS 250 CAP. 40,000			
SERIAL NO. 10735		MODEL NO.	N.B. NO.
BURNER MFG. PEABODY ENGINEERING		FIRING RATE: MOD.	
STEAM GAGE NAME: ASHCROFT		PRESS. 300	TEST OK
SV MFG CONSOLIDATED	CAP <sup>24,448</sup> 23,785	NO. 2	SIZE 2 1/2"
NO. 1 FRONT	SET 170	OPEN 166	CLOSE 162
NO. 2 BALK	SET 165	OPEN 172	CLOSE 170
NO. 3 NA	SET -	OPEN -	CLOSE -
CO2% 11.0	O2%	STACK TEMP 450	COMB. EFF. PURGE TIME 95 SEC
NO. 1 FIREYE C/O	OK	A/L	OK
NO. 2 FIREYE C/O	NA	A/L	NA
HI-STEAM TEMP. C/O	RESET 170	A/L	
EXCESS STEAM TEMP. C/O	X RESTART	A/L	
HI OIL TEMP. C/O	OK	A/L	OK
HI OIL PRESS. C/O	OK	A/L	✓
LO OIL TEMP. C/O	OK	A/L	OK
LO OIL PRESS. C/O	-	A/L	
LO ATOM AIR/STEAM C/O	OK	A/L	No LIGHT
NO. 1 LW C/O	OK	A/L	OK
NO. 2 LW C/O	OK	A/L	OK
LO FURNACE DRAFT C/O	OK	A/L	φ
LO FIRE START C/O	OK	A/L	φ
TYPE OF FUEL #6 / YEAR 1976			
Boiler HS-3009 SF - WWHS 550 SF			

REMARKS:

30 JUNE 1979





DATE OF INSPECTION  
 30 JUNE 1978

TYPE OF INSPECTION  
 A  INTERNAL & EXTERNAL B  INTERNAL & EXTERNAL WITH PRESSURE TEST C  OPERATIONAL

1. FROM  
 BASE MAINT. OFFICER CAMP LEJEUNE N.C.

14. CERTIFICATE ISSUED  YES  NO  
 EXPIRES 18 OCT 1978

2. TO  
 COMMANDANT Hdqtrs MARINE CORPS (CODE 1FF)

15. BOILER INSPECTOR  
 James L. Sellers  
 NAVY OR NATIONAL BOARD NO.

BOILER DATA

16. REASON FOR NOT ISSUING CERTIFICATE  
 NAUFAC 225

3. MANUFACTURER  
 TRANE

4. PROPERTY NO. 16	5. MFG. SERIAL NO. 10735	6. MFG. MODEL NO. MCF 2-51
7. BUILDING NO. AS 4151	8. YEAR BUILT 1976	9. CAPACITY 40,000 #/HR
10. FUEL (Check) <input type="checkbox"/> COAL <input checked="" type="checkbox"/> OIL <input type="checkbox"/> GAS		11. PRESSURE DESIGNED 250 psi OPERATING 150 psi TEST 255 psi
12. FEED WATER TREATMENT <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY		13. TYPE <input checked="" type="checkbox"/> WATER TUBE <input type="checkbox"/> FIRE TUBE <input type="checkbox"/> C. I.

17. BOILER USE  
 EXPORT

19. COMBUSTION  
 \_\_\_\_\_ % CO<sub>2</sub> \_\_\_\_\_ % EXCESS O<sub>2</sub>

18. COMBUSTION CONTROL (Mfg. Name)  
 HAGAN

20. FLUE GAS TEMPERATURE  
 AFTER BOILER \_\_\_\_\_ °F ; AFTER HEAT TRAP \_\_\_\_\_ °F

SAFETY DEVICES  
 SAFETY VALVES

21. MANUFACTURER CONSOLIDATED	22. NUMBER AND SIZE 2 - 2 1/2"	23. PSI SETTING 165-175	24. CONDITION
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STEAM PRESSURE GAUGE

25. MANUFACTURER ASHCROFT	26. CORRECTIONS WATER LEG CONSTANT _____ psi; OTHER _____ psi
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27. REASON IF NOT TESTED

FIRING EQUIPMENT

ITEM	IN SERVICE	ALTERNATE
28. MANUFACTURER	PEABODY ENGINEERING CO.	NONE
29. TYPE	GUN NOZZLE STEAM ATOM	
30. FUEL GRADE	#6	

31. INSPECTOR'S COMMENTS  
 OK

32. ATTACHMENT(S) (Check)  
 COPY OF INSPECTOR'S REPORT  SPECIAL COMMENTS

33. SIGNATURE  
 R.M. Sellers  
 BY DIRECTION



**INSPECTION REPORT-BOILERS**  
 NAVFAC 9-11014/41 (3/67)  
 Supersedes NAVDOCKS 2544  
 S/N 0105-004-0000

DATE OF INSPECTION  
 20 Sept Thru. 18 Nov 77

TYPE OF INSPECTION  
 A  INTERNAL & EXTERNAL B  INTERNAL & EXTERNAL WITH PRESSURE TEST C  OPERATIONAL

1. FROM  
 Base Maint. Officer Camp Lejeune NC.  
 2. TO  
 Commandant Hdqtrs Marine Corps (Code LFF)

14. CERTIFICATE ISSUED  YES  NO  
 EXPIRES 10-12-78  
 15. BOILER INSPECTOR  
 E.O. Mahley  
 NAVY OR NATIONAL BOARD NO

**BOILER DATA**

3. MANUFACTURER  
 Trane

4. PROPERTY NO. 168	5. MFG. SERIAL NO. 10735	6. MFG. MODEL NO. MCF-2-51 NB 366
7. BUILDING NO. New River 4151	8. YEAR BUILT 1976	9. CAPACITY 40,000 #/HR.

10. FUEL (Check)  
 COAL  OIL  GAS

11. PRESSURE  
 DESIGNED 250 psi OPERATING 150 psi TEST 375 psi

12. FEED WATER TREATMENT  
 SATISFACTORY  UNSATISFACTORY  
 New Unit

13. TYPE  
 WATER TUBE  FIRE TUBE  C. I.

16. REASON FOR NOT ISSUING CERTIFICATE  
 NAV FAC 101

17. BOILER USE  
 Export

18. COMBUSTION CONTROL (Mfg. Name)  
 Hagan

19. COMBUSTION  
 % CO<sub>2</sub> \_\_\_\_\_ % EXCESS O<sub>2</sub> \_\_\_\_\_

20. FLUE GAS TEMPERATURE  
 AFTER BOILER \_\_\_\_\_ °F : AFTER HEAT TRAP \_\_\_\_\_ °F

**SAFETY DEVICES**  
 SAFETY VALVES

21. MANUFACTURER  
 Consolidated

22. NUMBER AND SIZE  
 2 - 2 1/2"

23. PSI SETTING  
 165-175

24. CONDITION  
 New - Good.

25. MANUFACTURER  
 Ashcroft

26. CORRECTIONS  
 WATER LEG CONSTANT None psi; OTHER \_\_\_\_\_ psi

27. REASON IF NOT TESTED

**FIRING EQUIPMENT**

ITEM	IN SERVICE	ALTERNATE
28. MANUFACTURER	Peabody Engineering Co.	None
29. TYPE	Gun & Nozzle Steam Atom.	
30. FUEL GRADE	# 6	

31. INSPECTOR'S COMMENTS  
 Good.

32. ATTACHMENT(S) (Check)  
 COPY OF INSPECTOR'S REPORT  SPECIAL COMMENTS

33. SIGNATURE  
 R.M. Dillon

BY DIRECTION

