

AIR FACILITY AND PERMIT DATA  
TRXID 6AU KEY APP003760

RETRIEVE OPTION

APPL/PERMIT NO.- APP003760 AQ CONTACT> WAKILD PREMISE NO- 00011  
FACILITY NAME> CAMP LEJEUNE MARINE CORPS BASE REG/COUNTY> 08 ONSLOW  
SITE LOCATION: (IF DIFFERENT) MAILING ADDRESS: (REQUIRED)  
STREET MARINE CORPS BASE BLDG. RR-15 STREET> MARINE CORPS BASE  
CITY CAMP LEJEUNE ST NC ZIP 28452 CITY> CAMP LEJEUNE ST> NC ZIP> 28452  
PHONE NO. 919 451 3043 COMPANY CONTACT BOB ALEXANDER

\*\*\*\*\*DUN+BRADSTREET 0\*\*\*\*\*  
TYPE PERMIT>( 3 ) 1=NEW,2=REN,3=REV,4=PSD,5=TAX CERT.,6=COMPLEX,7=BUBBLE  
REVIEW LOCATION- WILMINGTON # OF DAYS- 000 INCREMENT INCREASE (LB/HR)  
DATE RECEIVED--> 11/26/84 APPL WITHDRAWN- / / TSP: .0 SO2: .0  
DATE TO REG/P+O- / / APPL RETURNED--- / /  
REG. COMM. SENT- / / DATE DENIED----- / / INCREMENT DECREASE (LB/HR)  
ADD INFO REQ----- / / PUBLIC NOTICE--- / / TSP: .0 SO2: .0  
ADD INFO RCVD--- / / EPA COMM RCVD--- / /  
SCHD TO ISSUE---- 02/24/85 PUBLIC HEARING- / / CONTROL DEVICE COST:  
DATE ISSUED----- / / REVENUE BOND-(Y/N)--- \$ 0  
EXPIRATION DATE- / / ASSIGN/CHANGE PERMIT  
COMMENTS: \$100 FEE DUE FOR REVISION OF PERMIT NO. 4642 FOR THE REPLACEMENT  
COMMENTS: OF BOILER NOS. 46 AND 47 LOCATED IN BUILDING NO. RR-15.  
COMMENTS:  
MESSAGE:

# 1096, 3/7  
2/20/85  
Bob

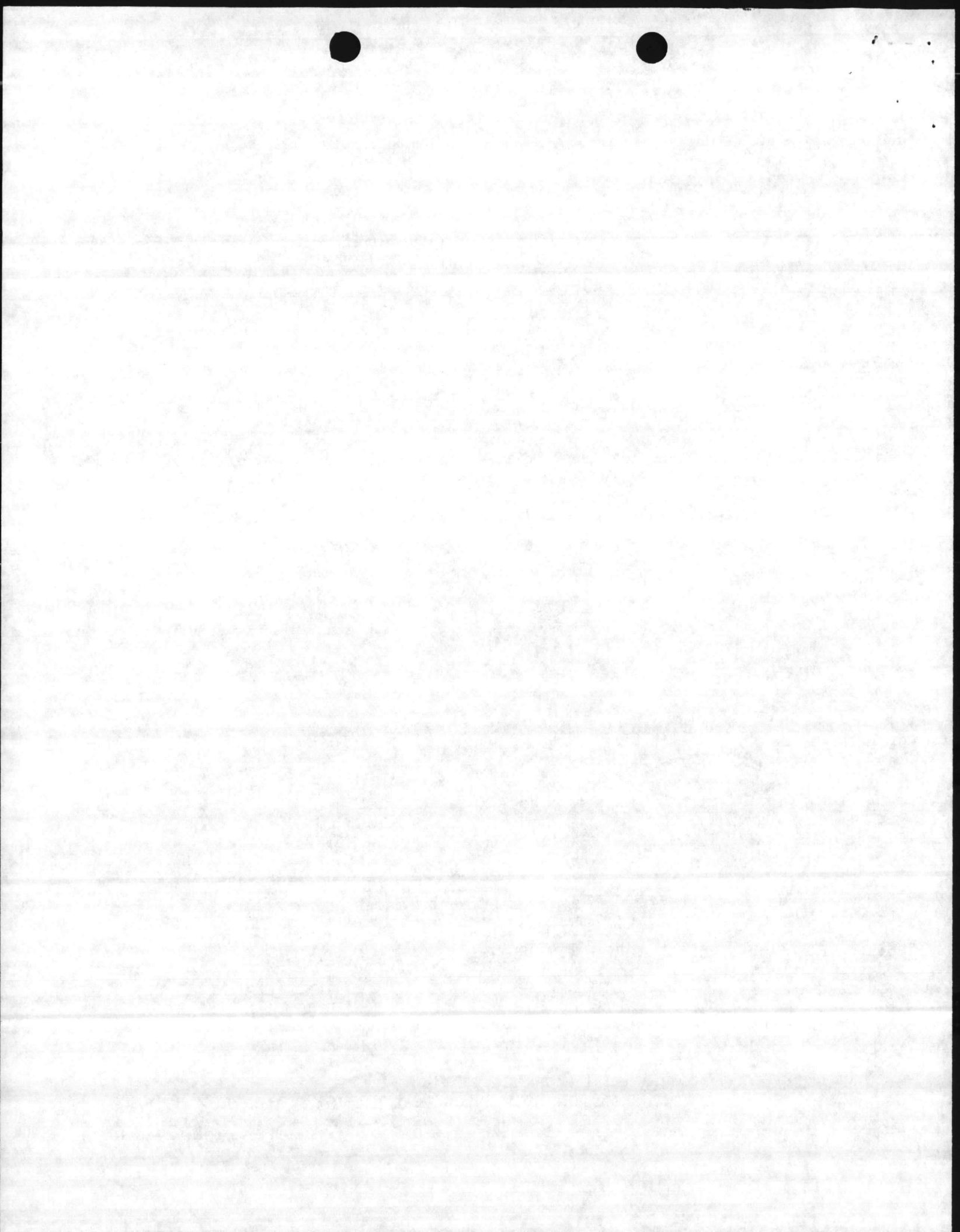
AIR FACILITY AND PERMIT DATA  
TRXID 6AU KEY APP003761

RETRIEVE OPTION

APPL/PERMIT NO.- APP003761 AQ CONTACT> WAKILD PREMISE NO- 00011  
FACILITY NAME> CAMP LEJEUNE MARINE CORPS BASE REG/COUNTY> 08 ONSLOW  
SITE LOCATION: (IF DIFFERENT) MAILING ADDRESS: (REQUIRED)  
STREET MARINE CORPS BASE BLDG. BB-9 STREET> MARINE CORPS BASE  
CITY CAMP LEJEUNE ST NC ZIP 28452 CITY> CAMP LEJEUNE ST> NC ZIP> 28452  
PHONE NO. 919 451 3043 COMPANY CONTACT BOB ALEXANDER

\*\*\*\*\*DUN+BRADSTREET 0\*\*\*\*\*  
TYPE PERMIT>( 3 ) 1=NEW,2=REN,3=REV,4=PSD,5=TAX CERT.,6=COMPLEX,7=BUBBLE  
REVIEW LOCATION- WILMINGTON # OF DAYS- 000 INCREMENT INCREASE (LB/HR)  
DATE RECEIVED--> 11/26/84 APPL WITHDRAWN- / / TSP: .0 SO2: .0  
DATE TO REG/P+O- / / APPL RETURNED--- / /  
REG. COMM. SENT- / / DATE DENIED----- / / INCREMENT DECREASE (LB/HR)  
ADD INFO REQ----- / / PUBLIC NOTICE--- / / TSP: .0 SO2: .0  
ADD INFO RCVD--- / / EPA COMM RCVD--- / /  
SCHD TO ISSUE---- 02/24/85 PUBLIC HEARING- / / CONTROL DEVICE COST:  
DATE ISSUED----- / / REVENUE BOND-(Y/N)--- \$ 0  
EXPIRATION DATE- / / ASSIGN/CHANGE PERMIT  
COMMENTS: \$100 FEE DUE FOR REVISION OF PERMIT NO. 4641R FOR THE REPLACEMENT  
COMMENTS: OF BOILER NO. 55 LOCATED IN BULDING BB-9.  
COMMENTS:  
MESSAGE:

# 1096, 3/8  
2/20/85  
Bob



AIR FACILITY AND PERMIT DATA  
TRXID 5AU KEY 4641R2

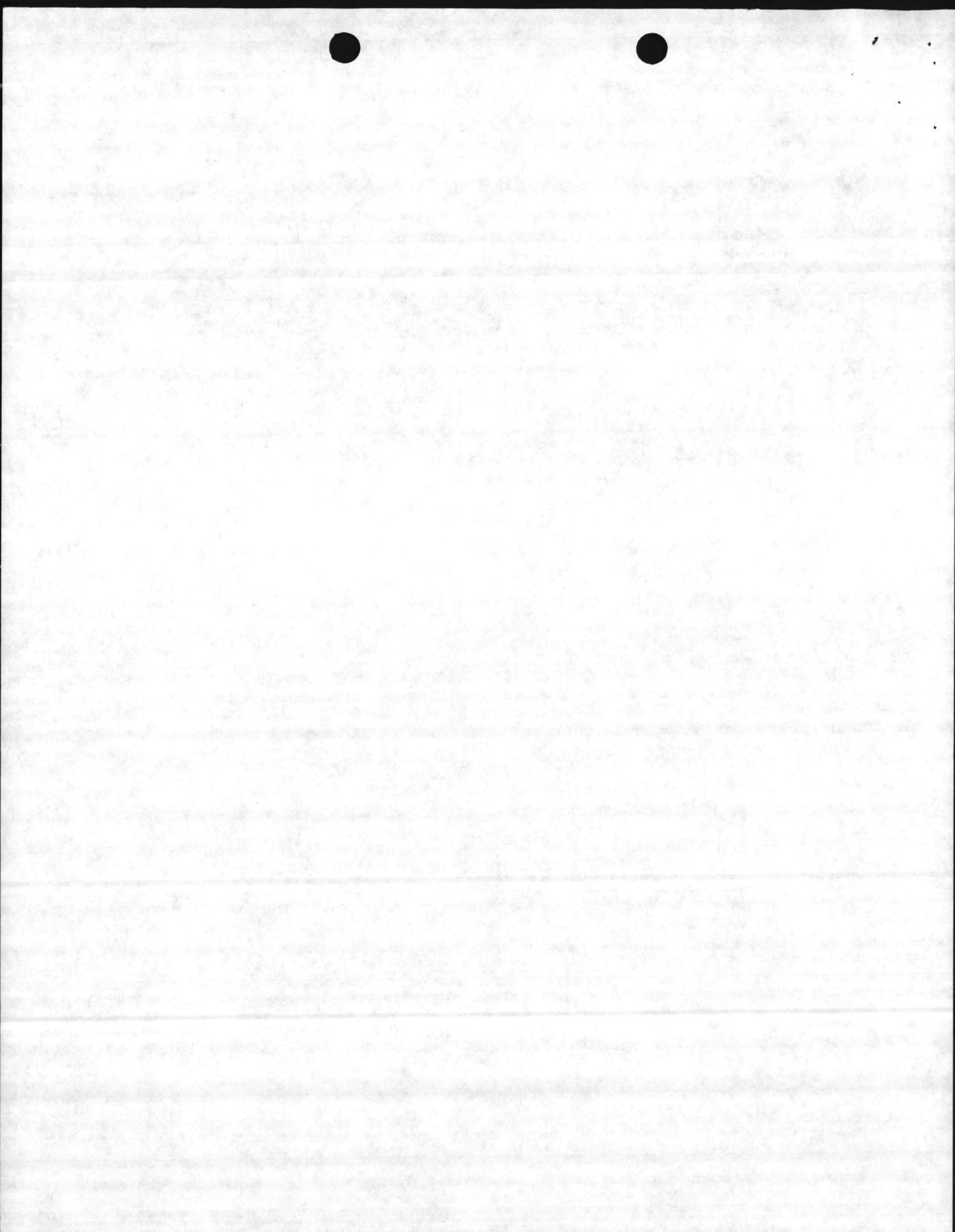
UPDATE OPTION

APPL/PERMIT NO.- 4641R2      AQ CONTACT> WAKILD      PREMISE NO- 00011  
FACILITY NAME> CAMP LEJEUNE MARINE CORPS BASE REC/COUNTY> 08 ONSLOW  
SITE LOCATION: (IF DIFFERENT)      MAILING ADDRESS: (REQUIRED)  
STREET MARINE CORPS BASE BLDG. BB-9      STREET> MARINE CORPS BASE  
CITY CAMP LEJEUNE      ST NC ZIP 28452 CITY> CAMP LEJEUNE      ST> NC ZIP> 28452  
PHONE NO. 919 451 3043      COMPANY CONTACT ROB ALEXANDER

\*\*\*\*\*DUN+BRADSTREET      0 \*\*\*\*\*

TYPE PERMIT>( 3 ) 1=NEW,2=REN,3=REV,4=PSD,5=TAX CERT.,6=COMPLEX,7=BUBBLE  
REVIEW LOCATION- WILMINGTON      # OF DAYS- 095      INCREMENT INCREASE (LB/HR)  
DATE RECEIVED--> 11/26/84      APPL WITHDRAWN- / /      TSP: .0 SO2: .0  
DATE TO REG/P+0- / /      APPL RETURNED-- / /  
REG. COMM. SENT- / /      DATE DENIED---- / /      INCREMENT DECREASE (LB/HR)  
ADD INFO REQ---- 11/29/88      PUBLIC NOTICE-- / /      TSP: .0 SO2: .0  
ADD INFO RCVD--- 02/20/85      EPA COMM RCVD-- / /  
SCHD TO ISSUE--- 05/21/85      PUBLIC HEARING- / /      CONTROL DEVICE COST:  
DATE ISSUED----- 03/01/85      REVENUE BOND--(Y/N)-- \$ 0  
EXPIRATION DATE- 02/01/89      ASSIGN/CHANGE PERMIT

COMMENTS: \$100 FEE DUE FOR REVISION OF PERMIT NO. 4641R FOR THE REPLACEMENT  
COMMENTS: OF BOILER NO. 55 LOCATED IN BULDING BB-9. \$100 FEE RECEIVED 2/20/85  
COMMENTS: PER CONVERSATION W/BETH LAMBERT ON 2/20/85. (TM)  
MESSAGE: OLD PERMIT DELETED, NEW PERMIT ADDED





UNITED STATES MARINE CORPS  
 MARINE CORPS BASE  
 CAMP LEJEUNE, NORTH CAROLINA 28542-5001

*Copy 11/27/84*

IN REPLY REFER TO

6280/3  
 FAC

19 NOV 1984

Mr. Charles Wakild  
 N.C. Division of Environmental Management  
 7225 Wrightsville Avenue  
 Wilmington, NC 28403-3096

**RECEIVED**

NOV 23 1984

Re: Revision of Air Pollution Permits  
 Steam Heating Boiler Plants  
 Contract No. N62470-81-1464  
 Camp Lejeune, NC

WILMINGTON REGIONAL OFFICE  
 DEM

Dear Mr. Wakild:

Marine Corps Base requests an air pollution permit revision for replacement of the following boilers:

<u>Boiler No.</u>	<u>Building No.</u>	<u>Permit No.</u>
10	PP-2615	4645
46	RR-15	4642
47	RR-15	4642
55	BB-9	4641R ✓

The construction schedule for the boiler replacements begins April 1985 with a completion date of July 1985. Enclosed are the air permit applications for the boiler replacements. The permit processing fee will be forwarded separately from the Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA.

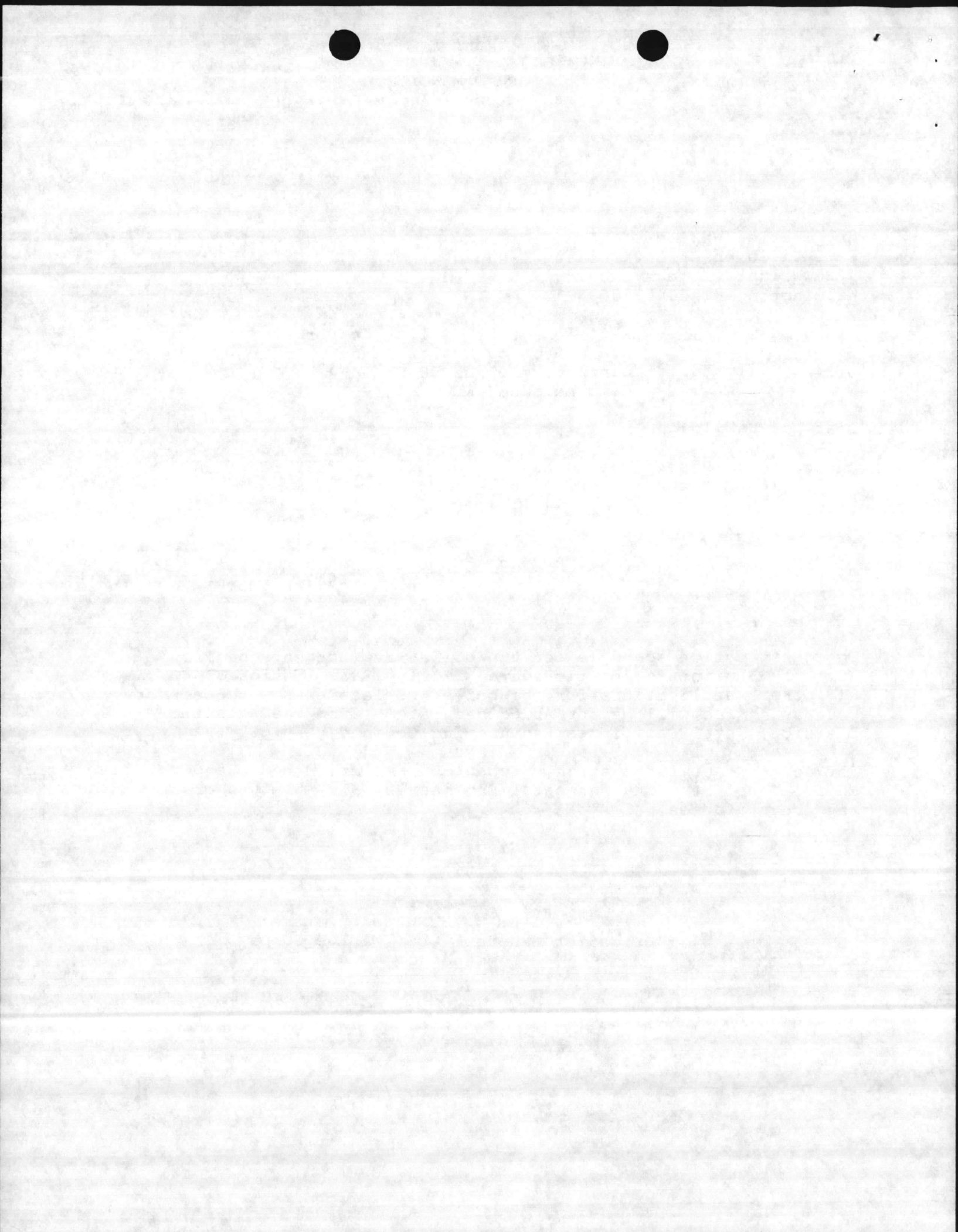
For any further information, please contact Mr. Bob Alexander, Marine Corps Base Environmental Engineer at 919-451-3034 or at the above address.

Sincerely,

L. H. BUEHL

Brigadier General, U.S. Marine Corps  
 Commanding

Copy to:  
 COMLANTNAVFACENCOM (Codes 114/20)



Environmental Management Commission

**AIR PERMIT APPLICATION\***

**GENERAL INFORMATION**

INSTRUCTIONS ON BACK

\*To construct and operate Air Emission Sources and Control Devices in accordance with N. C. General Statutes Chapter 143, Article 21.

PLEASE TYPE OR PRINT. ATTACH APPROPRIATE EMISSION SOURCE AND CONTROL DEVICE FORMS FOR EACH SOURCE LISTED IN ITEM 6 BELOW.

1. Facility Name (Company, Establishment, Town, Etc.): Department of the Navy, Marine Corps Base	SIC Code	Date
2. Site Location (St./Rd./Hwy.): Camp Lejeune, NC 28542-5001	City	Zip Code County
UTM North AC/S, Facilities (Attn: Mr. Alexander), Marine Corps Base	UTM East	UTM Zone
3. Mailing Address (P. O. Box/St./Rd./Hwy.): Camp Lejeune, NC 28542-5001	City	State Zip Code Phone with Area Code
4. Applicant Technical Contact: Mr. Robert E. Alexander, Environmental Engineer	Title	Phone with Area Code

FOR DEM USE ONLY
DATE RECEIVED: <b>RECEIVED</b>
NOV 26 1984
WILMINGTON REGIONAL OFFICE
DEM
PERMIT NUMBER: _____
DATE ISSUED: _____

5. Description of operation conducted at above facility:  
Steam heating boiler plants No. 10 - Paradise Point (Officers' Club); No. 46 and 47 - Rifle Range; No. 55 - Courthouse Bay Contract No. N62470-81-1464

6. List each EMISSION SOURCE and CONTROL DEVICE for which application is made. Assign an ID NUMBER to each emission source and control device which uniquely identifies that source. Attach appropriate emission source and control device forms for each.

EMISSION SOURCE	NAPSIS ID NO.	CONTROL DEVICE	ID NO.
Boiler No. 10, Bldg PP-2615	008	None	
Boiler No. 46, Bldg RR-15	501	None	
Boiler No. 47, Bldg RR-15	502	None	
Boiler No. 55, Bldg BB-9	203	None	

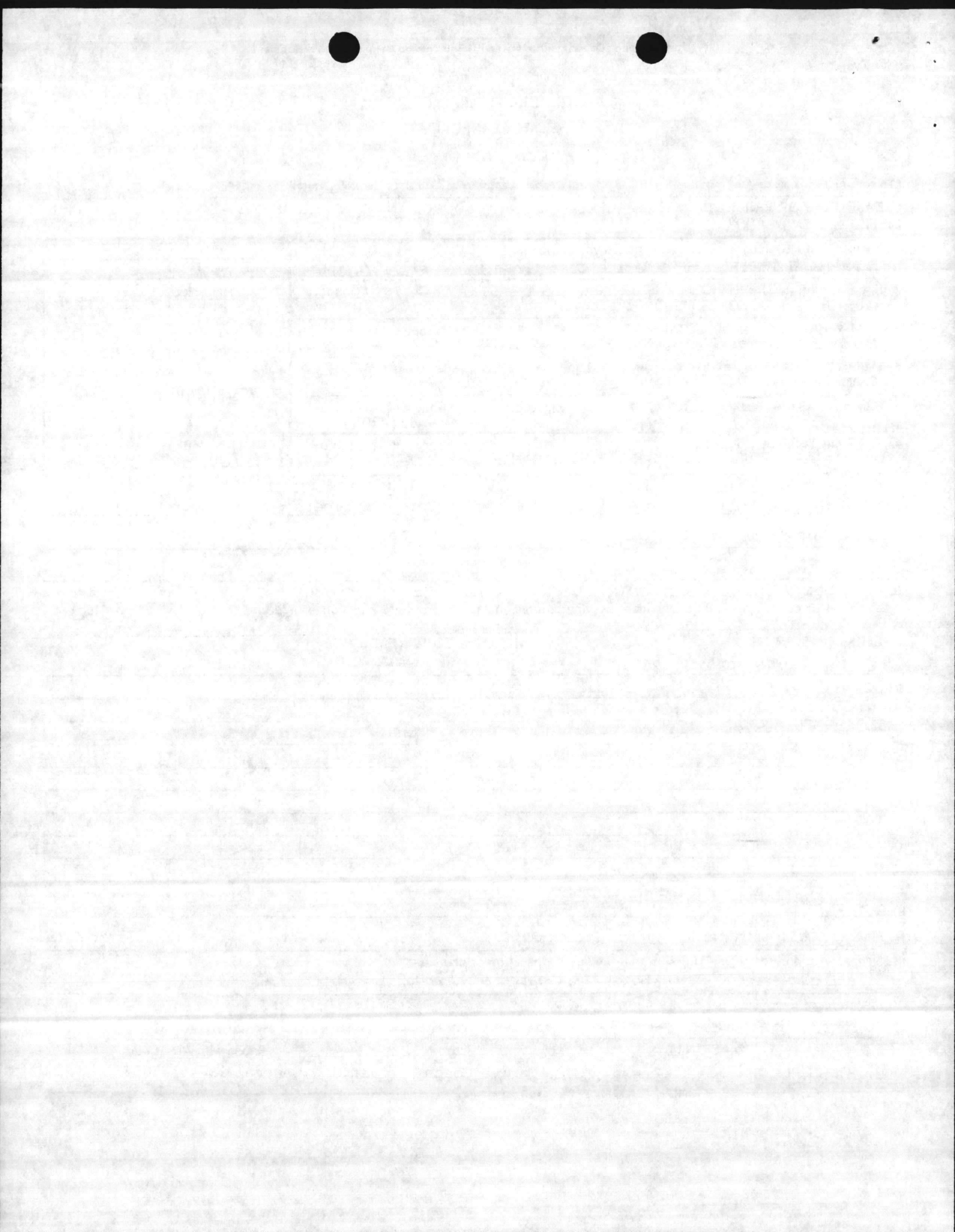
USE SEPARATE SHEET(S) IF NEEDED

7. Maximum facility operation: 24 Hours/Day 7 Days/Week 52 Weeks/Year

8. Name and address of engineering firm that prepared application or plans:  
Mills Engineering P. O. Box 3747, Gastonia NC 28052

9. Signature of responsible person or company official:  
*L. H. Buehl* Date \_\_\_\_\_

Signer's Name (TYPE OR PRINT) Title Phone with Area Code  
L. H. BUEHL, Brigadier General, U.S. Marine Corps, Commanding General 919-451-3034  
Marine Corps Base, Camp Lejeune, NC 28542-5001





GENERAL INFORMATION FOR PROCESSES OR FUEL BURNING SOURCES

NOTE: DO NOT USE THIS FORM FOR INCINERATORS, USE FORM "F".

PLEASE TYPE OR PRINT. ATTACH TO THE GENERAL INFORMATION FORM "A". IF APPLICABLE, ATTACH AIR POLLUTION CONTROL DEVICE FORM "C". USE SEPARATE FORM FOR EACH SOURCE.

1. Emission Source and ID NO. (FROM GENERAL INFORMATION FORM "A", ITEM 6):  
Boiler No. 55 Building BB-9

2. Description of Process or Fuel Burning Source Including Air Control Device:  
Watertube Boiler - 20,500 pph - No. 6 fuel oil

3. Permit Application is made for (CHECK ONE ONLY):

( ) New Source ( ) Existing Source (x) Modification - Last Permit No. 4641R

Commence Construction Date April 1, 1985, Operation Date July 1, 1983

4. Maximum Source Operation: 24 Hours/Day 7 Days/Week 52 Weeks/Year

Air Contaminants Emitted:	Maximum Actual Emissions		Emission Estimate Method*	Control Device**	Control Efficiency %
	Before Control (lb/hr)	After Control (lb/hr)			
Particulates	0.72	3			
Sulfur Dioxide	0.56	3			
Nitrogen Dioxide	0.40	3			
Carbon Monoxide	0.86	3			
Hydrocarbons (VOC)	0.22	3			
Lead... See Note 1					
Other ( )					
Other ( )					

\*REFER TO BACK OF GENERAL INFORMATION FORM "A" FOR EMISSION ESTIMATION CODE  
\*\*ATTACH AIR CONTROL DEVICE FORM "C"

6. Type of Source:

CHECK ONE

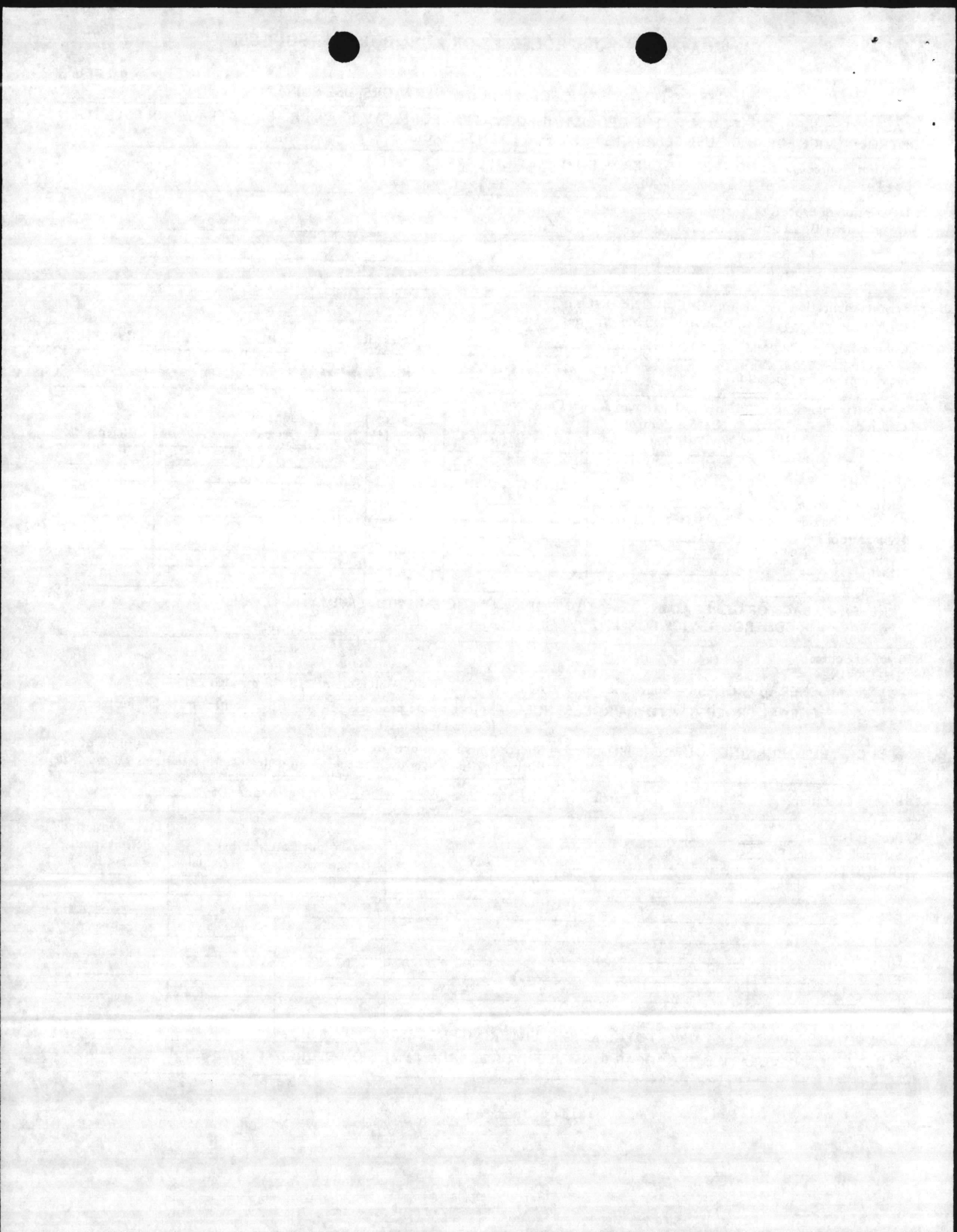
- ( ) A GENERAL PROCESS - Source not covered by B and C below. (Complete items 7, 8, 18 through 22)
- ( ) B GENERAL PROCESS WITH IN-PROCESS FUEL - Source where products of combustion contact materials heated. (Complete items 7, 8, 9, 13, 14, 18 through 22)
- (x) C FUEL BURNING SOURCE (boilers, etc.) - Source where products of combustion are for the primary purpose of producing heat or power by indirect heat transfer. (Complete items 9 through 22)

7. Process Operation: ( ) Continuous ( ) Batch - Normal Batch Time \_\_\_\_\_ No. Batches per Day \_\_\_\_\_

8. Process Name _____ Materials Entering Process*: (Include In-process Solid Fuels)	Input Rates (lb/hr)		Max. Requested Permit Input Rates (lb/hr)
	Design	Actual	
A. _____			
B. _____			
C. _____			
D. _____			
E. _____			
F. _____			
G. _____			
TOTAL WEIGHT ENTERING PROCESS			

\*DO NOT LIST ANY VOLATILE HYDROCARBONS, USE HYDROCARBON EMISSION SOURCES FORM "E"

Note 1: To be filled in by Air Quality Section.



DATA FOR PROCESSES OR FUEL BURNING SOURCES - continued

Type of Fuel Burning Source:  
 Industrial Boiler     Institutional/Residential Boiler     Electric Utility Boiler     Process Burner(s)  
 Other Marine Corp. Base    Make and Model No. \_\_\_\_\_

Type of Solid Fuel Burning Equipment Used: N/A  
 Hand Fired     Overfeed Stoker     Pulverized  
 Spreader Stoker     Traveling Grate     Wet Bed  
 Underfeed Stoker     Shaking Grate     Dry Bed  
 Other (specify) \_\_\_\_\_

Is collected flyash reinjected?  NO <sup>N/A</sup>  YES    Percent Rejected N/A %  
 Combustion Air: Percent Excess Air \_\_\_\_\_ %     Natural     Induced

Specify method and schedule of tube cleaning:  
 Lancing     Tube Blowing     Other \_\_\_\_\_ Schedule \_\_\_\_\_

Boiler Horsepower Rating 600    Boiler Steam Flow (lb/hr) 20,500

Fuel Burning Source Heat Input: Maximum 25.7 Million BTU/hr    Average 3.5 Million BTU/hr

Fuel Data: Primary Fuel Type(s) (specify) No. 6 fuel oil  
 Standby Fuel Type(s) (specify) None

FUEL TYPE	FUEL USAGE			Max. % Sulfur	Max. % Ash	BTU Value
	Max. Design	Max. Actual	Annual			
#6 Fuel Oil	(gal/hr) 171	(gal/hr) 171	(gal/yr) 127,000	2.10	0.10	(BTU/gal) 150,000
#5 Fuel Oil	(gal/hr)	(gal/hr)	(gal/yr)			(BTU/gal)
#4 Fuel Oil	(gal/hr)	(gal/hr)	(gal/yr)			(BTU/gal)
Coal	(lb/hr)	(lb/hr)	(ton/yr)			(BTU/lb)
Wood	(lb/hr dry)	(lb/hr dry)	(ton/yr dry)			(BTU/lb) 8,000
Other						

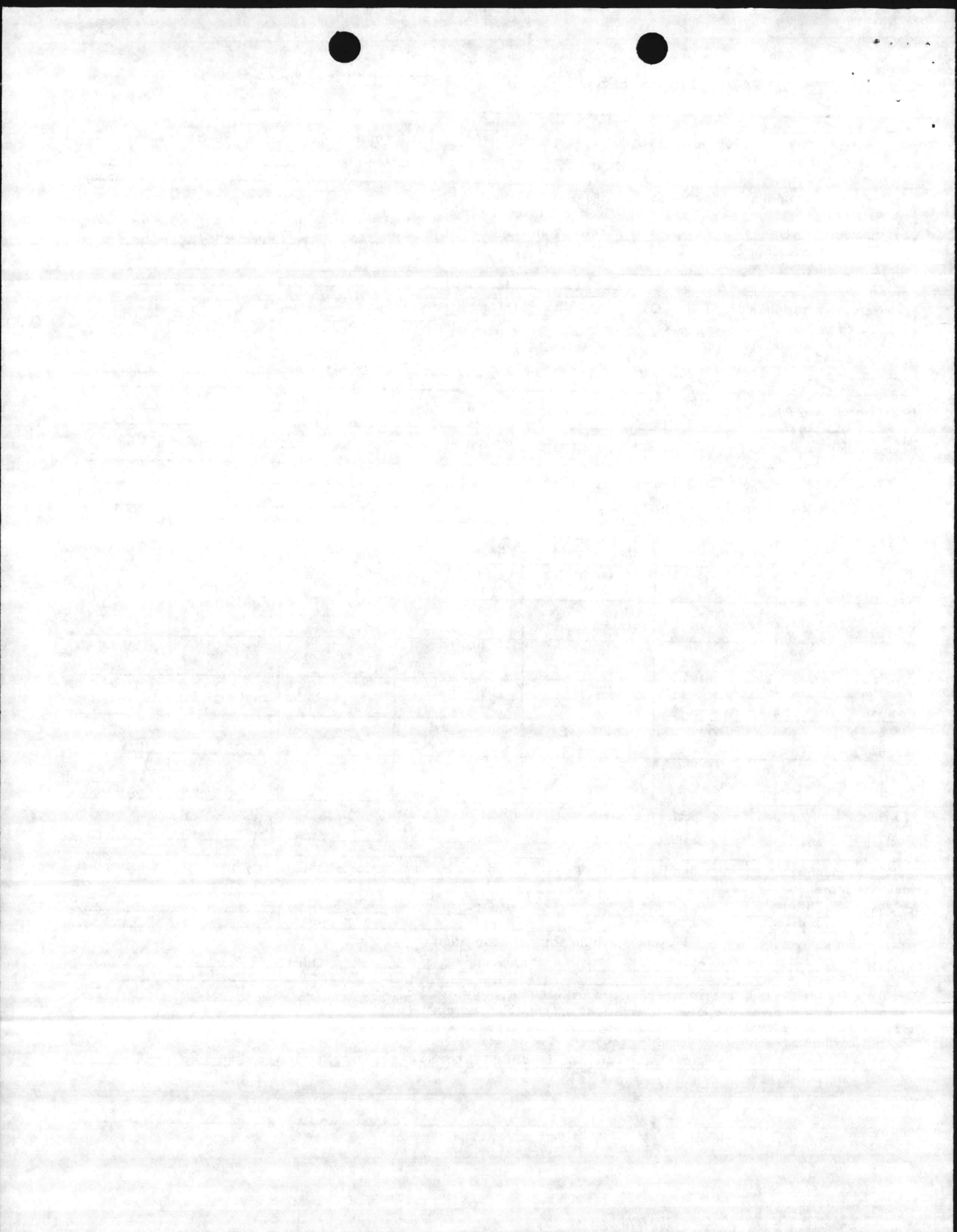
If a combination of fuels is used, specify the maximum BTU/hr heat input for each: N/A  
 Fuel Oil \_\_\_\_\_ Coal \_\_\_\_\_ Wood \_\_\_\_\_ Other \_\_\_\_\_

Total maximum heat input in million BTU/hr of all indirect fired fuel burning sources within property boundaries excluding that indicated above:  
 Fuel Oil 44.4    Coal \_\_\_\_\_    Wood \_\_\_\_\_    Other \_\_\_\_\_

Total No. of indirect fired fuel burning sources within property boundaries:  
 Fuel Oil 3    Coal \_\_\_\_\_    Wood \_\_\_\_\_    Other \_\_\_\_\_

Are there any fugitive emissions (storage piles, product handling, haul roads, etc.)? No () Yes ()    If yes, please describe in comments below, the type, size, estimated emissions and control measures.

Describe any liquid or solid wastes generated and method of disposal:  
Fuel oil waste is drained into an underground storage tank. Periodically the tank is pumped out and properly disposed of.



DATA FOR PROCESSES OR FUEL BURNING SOURCES — *continued*

1. Stack or Emission Point Data:

Height Above Ground (ft.) 35	Inside Area (sq. ft.) 4.6	Gas Temperature (Deg. F) 400	Direction of Exit (up, down or horizontal) Up
Volumetric Flow Rate (ACFM) 8,522	Velocity (ft./sec.) 30.9	Are sampling ports available? ( ) No (x) Yes	Is rain cap or other obstruction over stack? ( ) No (x) Yes, (specify) Rain cap
Is scaffolding available for source testing? (x) No ( ) Yes Not required.		Stack ID No. <u>55</u> — Sources with a common stack will have the same stack number.	

Indicate monitoring and recording instruments installed on stack:

(x) Opacity Monitor ( ) SO2 Monitor ( ) NOx Monitor (x) Other O2

Attach or sketch a flow diagram of the process or fuel burning source. Include air control device(s). (SEE INSTRUCTIONS ON BACK OF THIS PAGE):

N/A

Comments:

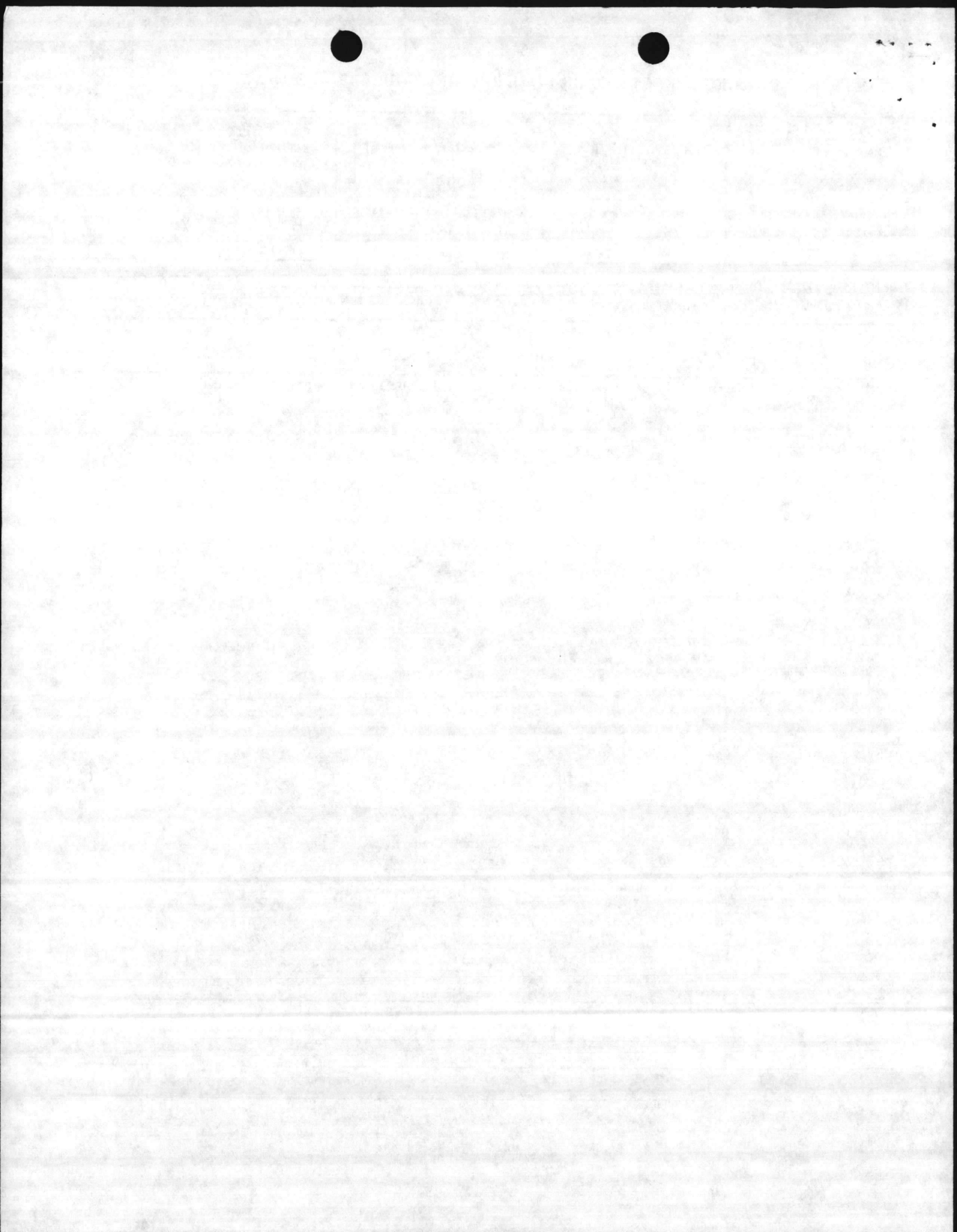
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NORTH CAROLINA DIVISION OF ENVIRONMENTAL MANAGEMENT

*2/28/85*

Air Quality Action Request

Computer \_\_\_\_\_

Name \_\_\_\_\_ Location \_\_\_\_\_ Reg/Co./Prem. No. \_\_\_\_\_

**Camp Lejeune Marine Base**                      **Camp Lejeune**                      **8-67-11**

Contact \_\_\_\_\_ Telephone \_\_\_\_\_

**Robert Alexander, Environmental Engineer**                      **451-3034**

Type Action: CI \_\_\_\_\_ EE \_\_\_\_\_ SR \_\_\_\_\_ PC \_\_\_\_\_ VE \_\_\_\_\_ PI \_\_\_\_\_ Other **Plans Review**

Air Program Status 03 \_\_\_\_\_ Class \_\_\_\_\_ Chg \_\_\_\_\_

Action Requested By: \_\_\_\_\_ Address/Phone \_\_\_\_\_ Rec'd Date \_\_\_\_\_

**L. H. Buehl, Commanding General, Camp Lejeune**                      **2/25/85**

Last Insp. Date \_\_\_\_\_ Action Date **2/15/85**                      Next Insp. Date \_\_\_\_\_

Permit # **4641R**                      Issued **9/8/81**                      Expires **4/1/86**                      Stip. # **N/A**                      Met Y/N \_\_\_\_\_

Recommendations: \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

**Revise permit under No. 4641R2**                      **Terry McCall**                      *TM 2-28-85*

Dist: Yellow (Central File) - Blue (Region) - White (Opt.) Specify \_\_\_\_\_

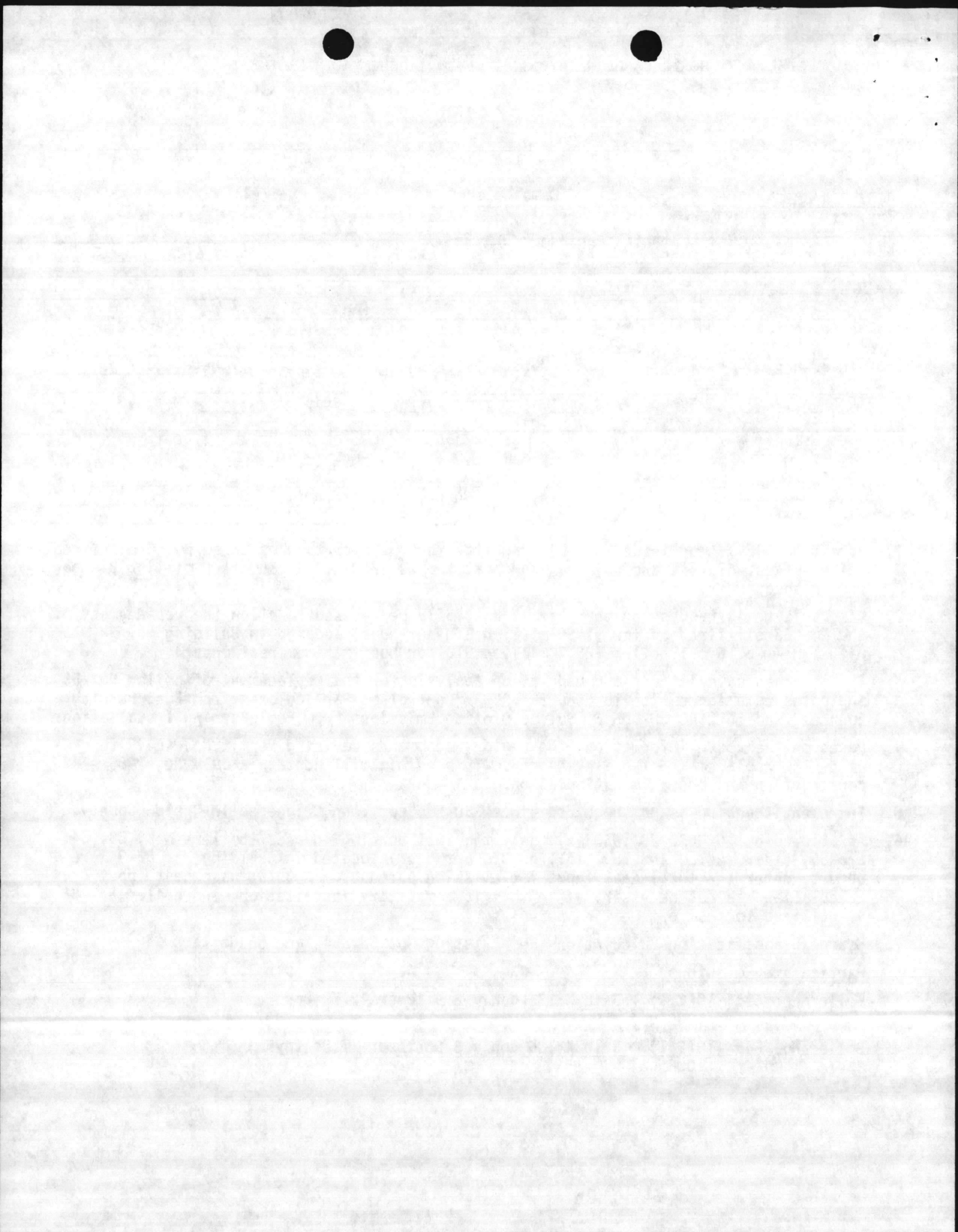
1. Permit No. 4641R was issued to this facility for the operation of three No. 6 oil-fired boilers (Nos. 53, 54, and 55) (maximum heat inputs 17.8, 24.2, and 11.0 million BTU per hour respectively).
2. Camp Lejeune is requesting that Permit No. 4641R be revised to allow the replacement of the No. 55 oil-fired boiler (11.0 million BTU per hour) located in Building No. BB-9 with a new No. 6 oil boiler (25.7 million BTU per hour maximum heat input).
3. The attached calculations and regulation analysis for the replacement of boiler No. 55 indicates compliance with 15 NCAC 2D .0503 "Control of Particulates from Fuel Burning Sources" and 15 NCAC 2D .0516 "Sulfur Dioxide Emissions From Fuel Burning Installations".
4. Based on the above information, the region recommends revising Permit No. 4641R to allow the replacement of boiler No. 55. This permit will contain a July 30, 1985 construction and operation stipulation.
5. Increment tracking is not required since PSD has not been triggered in Onslow County.
6. As allowed by 15 NCAC 2D .0503(c), only the fuel burning sources (boilers Nos. 53, 54, and 55) (17.8, 24.2, and 25.7 million BTU per hour) located in Building No. BB-9 were used to determine total heat input for emission purposes. A total base heat input calculation was not necessary since this is a military installation, and boiler No. 55 is utilized for comfort heating purposes.

7. Source Classification Calculations For Existing No. 53, 54, and 55 Boilers

Particulate Emissions

Boiler No. 53:  $\frac{10(2.1) + 3 \text{ lb}}{1000 \text{ gal}} \times 121 \text{ gph} = 2.9 \frac{\text{lb}}{\text{hr}}$  or 12.70 tpy

Boiler No. 54:  $\frac{10(2.1) + 3 \text{ lb}}{1000 \text{ gal}} \times 165 \text{ gph} = 3.96 \frac{\text{lb}}{\text{hr}}$  or 17.34 tpy





$$\text{Boiler No. 55: } \frac{10(2.1) + 3 \text{ lb}}{1000 \text{ gal}} \times 75 \text{ gph} = 1.8 \frac{\text{lb}}{\text{hr}} \text{ or } 7.88 \text{ tpy}$$

$$12.70 + 17.34 + 7.88 = 37.92 \text{ tpy (total: 3 units)}$$

S0<sub>2</sub> Emissions

$$\text{Boiler No. 53: } \frac{157(2.1 \text{ lb})}{1000 \text{ gal}} \times 121 \text{ gph} = 39.89 \frac{\text{lb}}{\text{hr}} \text{ or } 174.72 \text{ tpy}$$

$$\text{Boiler No. 54: } \frac{157(2.1 \text{ lb})}{1000 \text{ gal}} \times 165 \text{ gph} = 54.40 \frac{\text{lb}}{\text{hr}} \text{ or } 238.27 \text{ tpy}$$

$$\text{Boiler No. 55: } \frac{157(2.1 \text{ lb})}{1000 \text{ gal}} \times 75 \text{ gph} = 24.73 \frac{\text{lb}}{\text{hr}} \text{ or } 108.32 \text{ tpy}$$

$$174.72 + 238.27 + 108.32 = 521.31 \text{ tpy (total: 3 units)}$$

The above calculations indicates this facility is an existing major stationary source for S0<sub>2</sub> emissions from the boilers (Nos. 53, 54, 55) located at Building No. BB-9.

8. The potential increase in S0<sub>2</sub> emissions due to the replacement of boiler No. 55 is as follows:

Existing Unit 55: 108.32 tpy

Proposed Unit 55: 246.94 tpy

$$246.94 - 108.32 = 138.62 \text{ tpy increase above the allowed (40 tpy) de minimis level}$$

9. The above calculation indicates that PSD will apply to this revision; however, the annual emission rate is based on maximum designed firing rates (at 8760 hours per year) as applied for in the appropriate permit applications. It should be noted that actual emissions (based on file information) are much less than the 250 ton limit that triggers PSD before or after installation of the No. 55 boiler replacement.
10. As per 2/26/85 phone conversation with Bob Alexander, Environmental Engineer, and David Southerland, General Foreman, Utilities, Camp Lejeune Marine Base, the annual fuel usage for the boilers located in Building No. BB-9 is as follows:

Boilers Numbers 53, 54, and 55

1983: 489,008 gallons

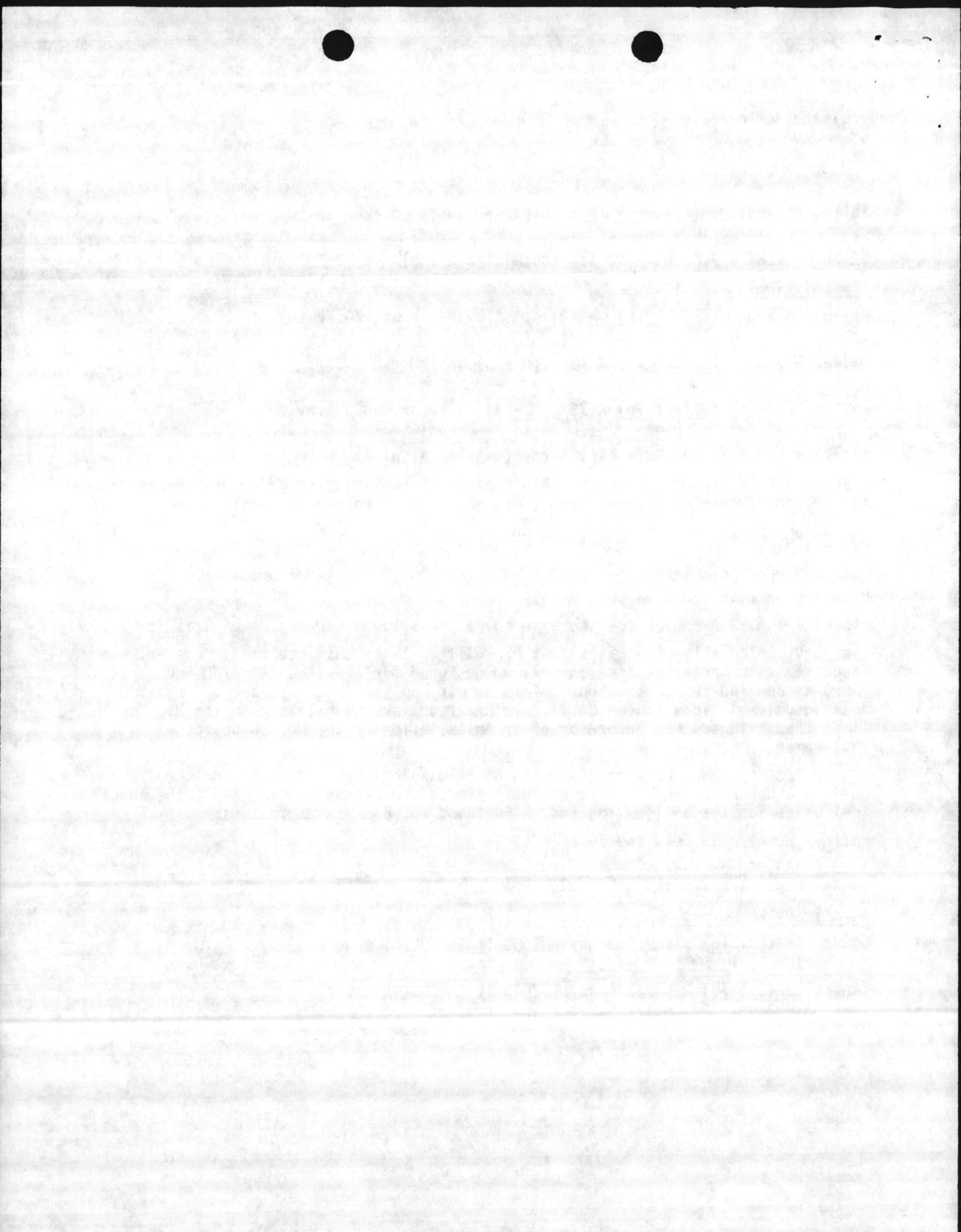
1984: 539,374 gallons

*> see attached letter dated 3-25-85. TM*

11. Actual S0<sub>2</sub> Emissions

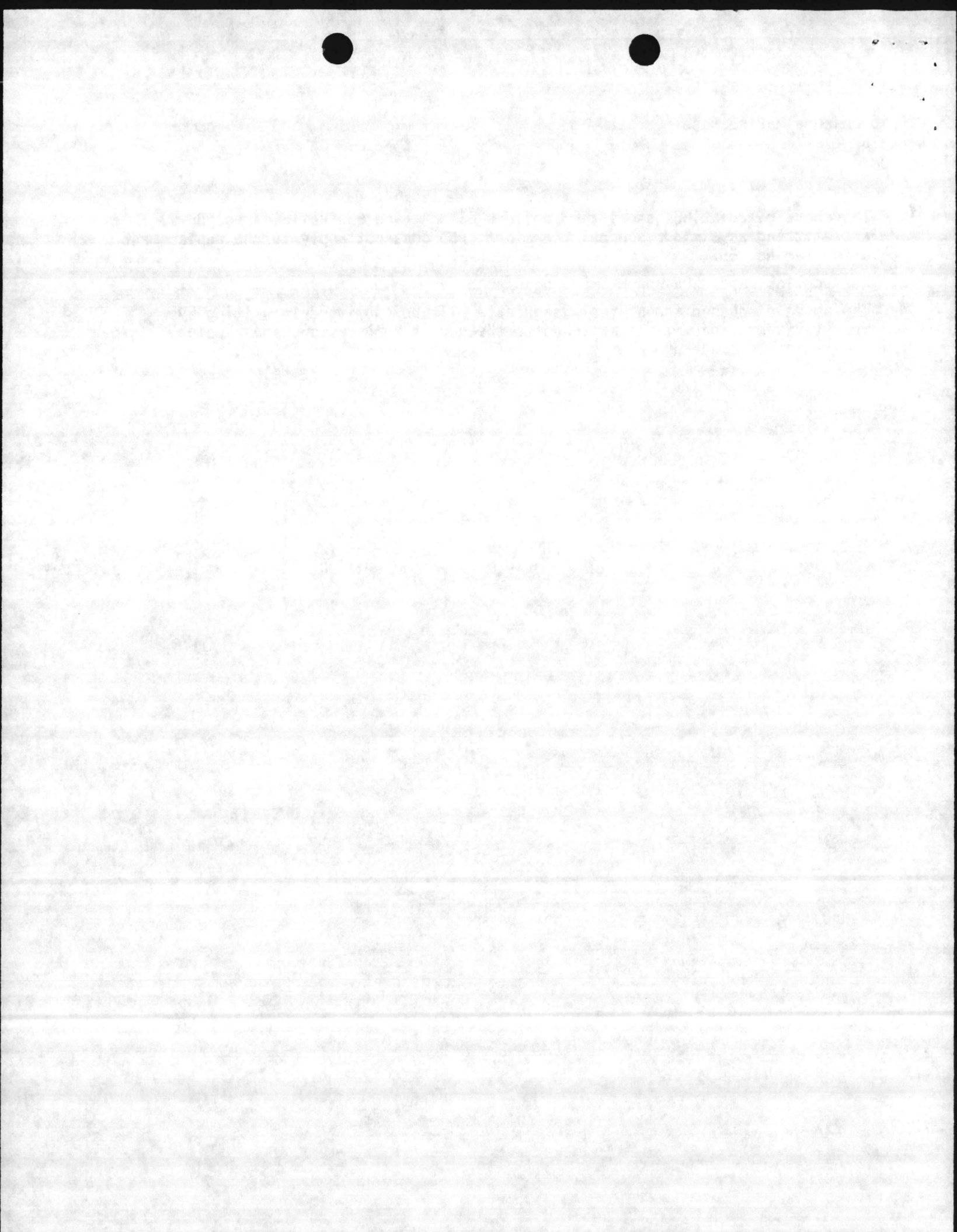
$$1983: \frac{157(2.1 \text{ lb})}{1000 \text{ gal}} \times 489,008 \text{ gpy} \div 2000 \frac{\text{lb}}{\text{ton}} = 80.61 \text{ tpy}$$

$$1984: \frac{157(2.1 \text{ lb})}{1000 \text{ gal}} \times 539,374 \text{ gpy} \div 2000 \frac{\text{lb}}{\text{ton}} = 88.92 \text{ tpy}$$



12. The above calculations shows that boilers 53, 54, and 55 (Building No. BB-9) are emitting as a minor source; therefore, PSD does not apply to the replacement of boiler No. 55.
13. NSR applies, and NSPS and NESHAPS does not.
14. The above discussed annual fuel usage data will be submitted in writing by Mr. Alexander, and will be attached to the permit application upon receipt.

Attachments



Boiler No. 55 Replacement Analysis

Emissions will be calculated on a worst case basis (No. 6 oil with 2.1% sulfur content at maximum firing rate).

Actual Emissions (AP-42: Table 1.3-1)

\*PM:  $\frac{10(2.1) + 3 \text{ lb}}{1000 \text{ gal}} \times \text{gph firing rate}$

$\frac{24 \text{ lb}}{1000 \text{ gal}} \times 171 \text{ gph} = 4.1 \frac{\text{lb}}{\text{hr}}$  or 17.96 tpy

\*SO<sub>2</sub>:  $\frac{157(2.1 \text{ lb})}{1000 \text{ gal}} \times \text{gph firing rate}$

$\frac{329.7 \text{ lb}}{1000 \text{ gal}} \times 171 \text{ gph} = 56.38 \frac{\text{lb}}{\text{hr}}$  or 246.94 tpy

Allowable Particulate Emissions (15 NCAC 2D .0503)

$E = 1.090 Q^{-.2594}$

$E = 1.090 (67.7)^{-.2594}$

$E = .365 \text{ lb per million BTU}$

$E = .365 \frac{\text{lb}}{\text{mm BTU}} \times 25.7 \frac{\text{mm BTU}}{\text{hr}} = 9.38 \frac{\text{lb}}{\text{hr}}$

Allowable SO<sub>2</sub> Emissions (15 NCAC 2D .0516)

$2.3 \frac{\text{lb}}{\text{mm BTU}} \times 25.7 \frac{\text{mm BTU}}{\text{hr}} = 59.11 \frac{\text{lb}}{\text{hr}}$

\*Actual particulate and SO<sub>2</sub> emissions for the replacement unit (No. 55) are based on a maximum designed and a maximum actual firing rate of 171 gph as applied for in the permit application. It should be noted this unit will burn approximately 127,000 gallons of fuel annually, and that the average firing rate will be 3.5 million BTU per hour (approximately 23 gph). Therefore emissions will actually be much lower than the above calculations and permitted firing rate indicates.

