

BOILER INSPECTION CHECK LIST

LOCATION	BLDG NO.	BOILER NO.	DATE
	A-1	50	18 17 DEC. 86
BOILER MFG. <u>STONE JOHNSON</u>	OPERATING PRESS.	DESIGN PRESS.	CAP.
SERIAL NO.	MODEL NO.	N.B. NO.	
BURNER MFG.	FIRING RATE:		
STEAM CAGE NAME:	PRESS.	TEST	
SV MFG	CAP	NO.	SIZE
NO. 1	SET 15	OPEN 16.5	CLOSE 14.2
NO. 2	SET	OPEN	CLOSE
NO. 3	SET	OPEN	CLOSE
CO2% 12.2	02% 4.5	STACK TEMP 400-350	COMB. EFF. PURGE TIME
NO. 1 FIREYE	C/O OK 3 SEC	L/O LIGHT	A/L
NO. 2 FIREYE	C/O		A/L
HI-STEAM ^{PRESS} TEMP.	C/O OK SET AT 10 PST		A/L
EXCESS STEAM TEMP.	C/O OK SET AT 11.4 PST		A/L
HI OIL TEMP.	C/O		A/L
HI OIL PRESS.	C/O		A/L
LO OIL TEMP.	C/O		A/L
LO OIL PRESS.	C/O		A/L
LO ATOM AIR/STEAM	C/O OK L/O LIGHT		A/L
NO. 1 LW	C/O OK 1/2" ABOVE BOTTOM OF GLASS.		A/L
NO. 2 LW	C/O CUT OUT BELOW BOTTOM OF SIGHT GLASS.		A/L
LO ^{COMBUSTION AIR} FIRING RATE	C/O OK L/O LIGHT		A/L
LO FIRE START	C/O OK - REMOVED #20 WIRE (BOTTOM)		A/L
TYPE OF FUEL	YEAR BUILT		A/L
HEAT SURFACE	Boiler	WATER WALL	

REMARKS: PURGE FLOW AIR SWITCH - OK

LOW FIRE HOLD SWITCH - SET @ 180 °F

AUX LOW WATER LOCKS OUT BOILER FLAME FAILURE - MANUAL RESET PROGRAM

1. OIL LEAK @ PET COCK TO GAGE.

2. CHECK VALVE IN FEED WATER LINE NOT HOLDING - BACKING UP.

3. LEAK IN 90° BLL 1" - FLW LINE.

4. AUX - WATER FEEDER NEEDS ADJUSTING TO RAISE WATER LEVEL.

LWCO - AUTO CUT OFF FUEL / LOWEST VISIBLE PART OF WATER GLASS

SEC. IV 3.28 - 3.02

PROGRAMMER CONTROL - FIREYE - TYPE 70010

FEED PUMP ON AT 1 1/8" FROM BOTTOM OF GLASS

Boiler STARTS BACK UP @ 8 PSI & FIRE COME ON @ 5 PSI

SIV 1ST TRY POP AT 16.5 CHATTER & HANG UP DOWN TO 14.2 PSZ

COMBUSTION

L/FIRE O2 - .9.0 CO2 - 8.8 TEMP - 248

MED FIRE - O2 - 8.5 CO2

Hi-FIRE -

99928 9.

02561 ~~0.9.65~~ 3.2

3.20	2.0
1.65	
<hr/>	
1.55	

15
30
<hr/>
15.

23 DEC-86

FUEL OIL USED

LO-FIRE .34 X 30 = 10.2 GPH

Hi-FIRE 1.07 X 30 = GPH.

TESTED AUX WATER FEEDER
SEEM TO BE SATISFACTORLY BUT
COULD NOT WASTE ENOUGH STEAM
TO KEEP BOILER ON Hi-FIRE.

water. Foaming can sometimes be cured by blowing the boiler down, draining 2 or 3 in., then refilling a few times. In persistent cases, it may be necessary to take the boiler out of service, drain, and wash out thoroughly as described for a new steam boiler installation, then refill, and put back into service.

F. Abnormal Water Losses. Where water losses from a steam boiler become abnormal, as indicated by the requirement of large amounts of manually fed make-up, an investigation should be made immediately to determine the cause. Boilers operated with automatic water feeders requiring an increase in water treatment should be investigated immediately for cause of loss of water. Proper repair or replacement of parts should be made at once rather than to increase the water treatment to protect the system due to excessive raw water make-up. If the operator cannot determine the cause of the water loss, a competent contractor should be contacted.

G. Make-Up Water. When water make-up is needed and neither the boiler or the condensate tank is equipped with an automatic water feeder, manually add water to the steam boiler.

(1) Use every practical means for excluding oxygen from the boiler water. One source of oxygen is make-up water; therefore, hold make-up to a minimum. If the boiler loses more than 3 in. of water per month, this indicates there probably is a leak in some part of the system. The leak should be found and corrected.

(2) If the system includes a pump for returning condensate or adding feedwater, be certain that the air vent at the receiver is operating properly.

(3) If large quantities of feedwater are required, deaerating equipment is recommended to remove dissolved gases, thereby reducing oxygen corrosion.

H. Low-Water Cutoff. Check the operation of the low-water cutoff, pump control, and the water feeder if one is installed. Follow the instructions on the tag or plate, attached to each control, to blow down the control regularly as recommended by the manufacturer.

Periodically, the low-water cutoff may be tested under actual operating conditions. With the burner operating and the boiler steaming at proper water level, close all the valves in the feedwater and condensate return lines so the boiler will not receive any replacement water. Then carefully observe the waterline to determine where the cutoff switch stops the burner in relation to the lowest permissible waterline established by the boiler manufacturer.

If the burner cutoff level is not at, or slightly above,

the lowest permissible waterline, in a new installation the low-water cutoff should be moved to the proper elevation, or in an existing installation it should be serviced, repaired, or replaced if necessary.

7.06 REMOVAL OF BOILER FROM SERVICE

A. Procedure. When a steaming boiler is to be taken out of service at the end of the heating season or for repairs, proceed as follows.

(1) While maintaining boiler water temperature (180 to 200°F), drain off boiler water from bottom drain until it runs clear.

(2) Refill to top of gage glass, and add sufficient water treatment compound to bring the treatment up to strength.

(3) When all the dissolved gases are released (approximately 1 hr), shut down the firing equipment by disconnecting the main switch.

(4) For treatment of laid-up boilers, see 9.11D.

W85

B. Cleaning. When the boiler is cool, clean the tubes and other fire side heating surfaces thoroughly, and scrape the surfaces down to clean metal. Clean the smokeboxes and other areas where soot or scale may accumulate. Soot is not corrosive when it is perfectly dry, but can be very corrosive when it is damp. For this reason, it is necessary to remove all the soot from a boiler at the beginning of the nonoperating season, or any extended nonfiring period.

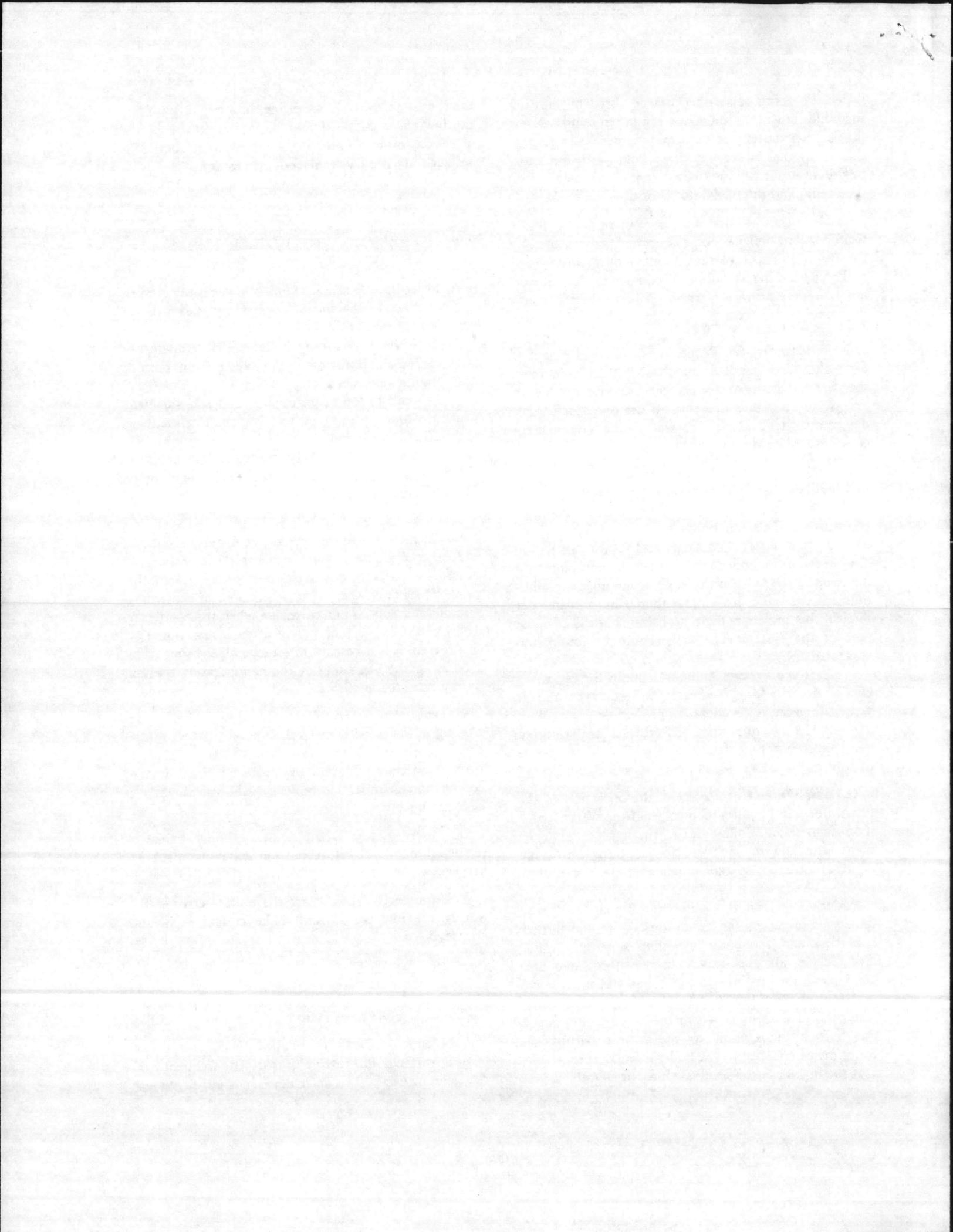
C. Protection Against Corrosion. Swab the fire side heating surfaces with neutral mineral oil to protect against corrosion. If the boiler room is damp, place a tray of calcium chloride or unslaked lime in the combustion chamber and replace the chemical when it becomes mushy.

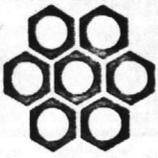
D. Water Level. Drain a steam boiler back to normal water level before putting the boiler back in service.

E. Periodic Checks. Check the boiler occasionally during the idle period and make certain it is not corroded.

7.07 MAINTENANCE

A. Cleaning. Clean the boiler tubes and other heating surfaces whenever required. The frequency of the cleaning can best be determined by trial. A general





Stone Johnston Corporation

300 Pine Street, Ferrysburg, MI 49409
Telephone: (616) 842-5050 / Telex 228-406 / Fax (616) 846-6380

A-1 #50

December 19, 1986

Mr. Paul Plybon
Combustion System Sales
1421 Westover Terrace
P.O. Box 29178
Greensboro, North Carolina 27408

Reference: Cutoff points of low water and auxiliary low water cutoff.

Dear Paul:

As per our phone conversation of December 18, this letter confirms that the setting of the McDonnell Miller #157 should shut the burner down with visible water in the glass.

The auxiliary low water cutoff shuts off the burner at a safe lower level and since it is required by U.S.C.G., ABS, Lloyds of London and some insurance requirements that the burner shuts down and a manual reset is required before a recycle can occur. No requirement of water in the glass is necessary. We do have the auxiliary McDonnell Miller #767 in the non-recycle circuit.

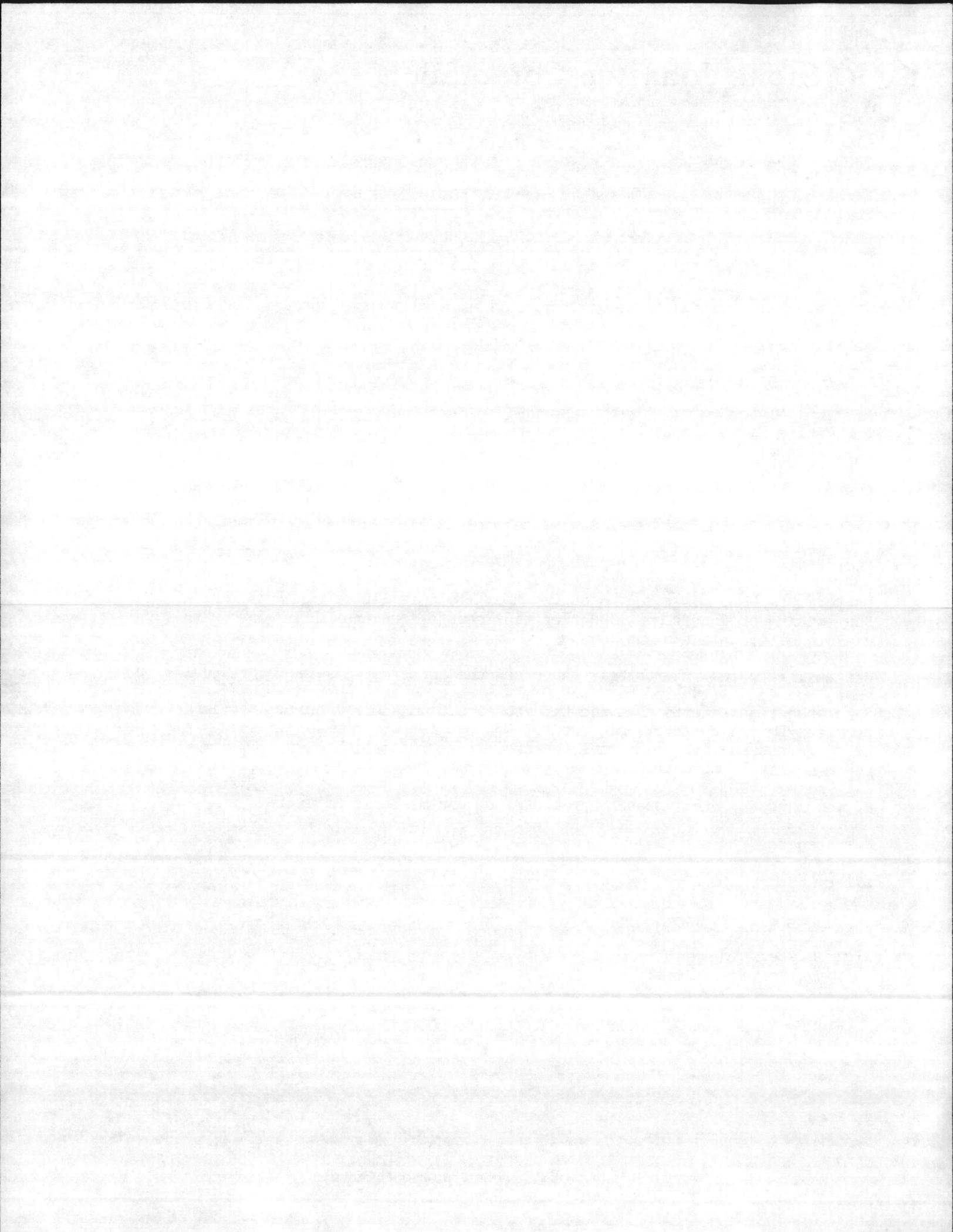
If you have any other questions, please do not hesitate to ask.

Best regards,

STONE JOHNSTON CORPORATION

Lloyd D. Berwald
Customer Service Manager

LDB:lh



JOHNSTON PACKAGED BOILER FACTORY RECORD

A-1

S.O. 8304		Pressure 15#		Boiler Serial 830401		Oil #2		Gas Press. Req'd		Und. Label		Insurance Code UL	
Unit TA100-4L15S		Compressor Quinch		Type 210		Serial No.		Swirler PA915		Air Relief Valve			
Motor Pulley O.D. BK40		Bore 7/8"		Belts-No. 1		Size 5L490		Burner Holder PQ95		Nozzle Delavan		Type 23034	
Nozzle Delavan		Type 30615-44		Size 40GPH		No. 1		Angle Std		Nozzle Body Delavan		Type 23034	
Filter		No.		Model No.		Gas Mod. Valve		Size		Type		Test Cock	
VALVES		Oil (1) GC Valve		Size 3/8		Type K13CB1232		K10AB173		Gas Mod. Valve		Size	
Gas Valve		Size		Type		Body		Type		Actuator			
Aux. Gas Valve		Size		Type		Body		Type		Actuator			
Vent Valve		Size		Type		Gas Shut-Off Cock		Size		Oil Mod. Valve NA 1813M-02D		Size 3/8"	
IGNITION		No. (2) Electrode 3A12-10		Rajah Fitting Yes		Hi-Voltage Wire Length		Pilot Body 28737-1 Delavan w/Delavan 2.0 GPH		Pilot Cock			
Pilot Valve Honeywell		Size 3/8		Type V4046B1007		XXXXX Transformer		XXXXX Pilot Air Regulator		Type A31S 1/4"		Sec. Volt.	
Direct Spark Ignition Trans.		Webster		Type 312-24A02		Sec. Volt. 6000		Hi-Voltage Wire Length 24"		Pilot Nozzle - 1613-60°			
BLOWER		SJC		Size R825-30		Bore 5/8"		Wheel Dia.		Wheel Width			
Motor Pulley O.D.		Bore		Shaft Pulley O.D.		Bore		Belts-No.		Size			
Bearings - Front		Rear		Bore		Shaft Size - Dia.		Length					
ELECTRICAL		Panel		Serial No.		Volts 230		Ph. 3		Cyc 60		Panel Lock	
Indicating Lights Dialight		Type 57F3733		Bulb Size 6W		Volt 115		Control Volt Trans. 9T51B8		Sec. Volt			
Main Switch 2607D89G11		Type		Amp. Volt.		Burner Switch CH		Type 7501K15		Amp Volt.			
Modutrol Switch		Type		Amp. Volt.		Fuel Select Switch		Type		Amp Volt		Oil Pump Switch	
Day-Nite Switch		Type		Amp. Volt.		Silencing Switch		Type		Amp Volt		Auto-Manual Mod. Switch CH	
Electronic Program Relay Fireye		Type 70D10		Model		Serial No.							
Electronic Scanner Fireye		Type 48PT2		Model 9003		Motors		Compressor		Blower		Oil Pump	
Modutrol Motor Honeywell		Type M941D1047		Speed		Make		Baldor		Baldor			
Modutrol Aux. Switch		Type		25 Volt Trans. AT72D		H.P.		1 1/2		3			
Manual Potentiometer Honeywell		Type 105364BUA				Volts		208/230/460		208/230/460			
D.C. Voltmeter		Type				Ph.		3		3			
XXXXX Purge Air Switch		Type		C645A1022		Cyc.		60		60			
XXXXX Honeywell		Type				Amp Rating		4.8		8.0			
Operating Control Honeywell		Type L404A1354		Range 2 - 15#		R.P.M.		1725		3450			
Modulating Control Honeywell		Type L91A1037		Range 0 - 15#		Frame		145T		56C			
Hi Limit Control Honeywell		Type L404A1354		Range 2 - 15#		Serial							
XXXXXXX Low Fire Hold		Type		L4006B1171		Range 100 - 240°		Starter Make		AB		AB	
Nite Modulate Control		Type		Range -		Type		509TOD		509AOD			
Primary Air Switch Honeywell		Type L404B1320		Range 2 - 50#		Coil Volt.		115		115			
Secondary Air Switch Honeywell		Type C645A1022		Range 3 - 21"		O'load Relay		W44		W50			
Hi Gas Press. Switch		Type		Range -		Fuses		FRNR15		FRSR25			
Lo Gas Press. Switch		Type		Range -		Control Fuses		FRNR		Amp. 4		Volts	
Oil Press Switch		Type		Range -		Oil Heater Relay		Type		Fuses			
Hi Temp. Oil Limit		Type		Range -									
Alarm		Type		Alarm Relay		Type							
Alarm Silence Relay		Type		Low Water Relay		Type							
Combustion Air Relay		Type		Low Fire Relay		Type							
Air Flow & Gas Press. Relay		Type		Time Delay Relay		Type							
Flame Failure & Excessive Temp. Relay		Type		Burner Position Switches		Type							
Low Water & High Boiler Press. Relay		Type		Hi Fire Aux. Relay		Type							
Fusible Link Switch		Type		Temp. Setting									
TEST	OIL	Low Fire	Mod. Valve 3	Oil Press. 60#	Air Press. 20#	Gph. 4.5	Co2						
		High Fire	Mod. Valve 5 5/8	Oil Press. 60#	Air Press. 42#	Gph. 30.3	Co2						
	GAS	Low Fire	Regulated Pressure	Man. Press.	Cfh	Co2							
		High Fire	Regulated Pressure	Man. Press.	Cfh	Co2							
Mizzou Plastic	Handhole Gasket-No.	Size	Handhole Gasket-No.	6	Size #3	Manhole Gasket-Size #6	Flue Brush Size 1 3/4"						
Date	October 15, 1986			Owner	Amphibian Troop Area - Bldg A1								
Inspected and Approved By	E Wessel - H. Smith			Address	Camp LeJeune, North Carolina								

JOHNSTON PACKAGED BOILER FACTORY RECORD

GAS ACCESSORIES		Main Gas Regulator	Size	Type	Spring
Regulated Press. Gage - Range	—	Manifold Press. Gage - Range	—	Pilot Regulator	Size Type

OIL CIRCULATION		Oil Pump	Webster	Type	2R656D	Serial No.	G.P.H.	R.P.M.
Pump Pulley O.D.	Motor Pulley O.D.	Bore	Belts Size	No.	Flow Control Valve	Size		
Vacuum Gage	Size	Range	—	Pressure Gage	Ashcroft	Size 2"	Range 0-160#	
Oil Thermometer	Type	Range	—	Compressor Air Gage	Ashcroft	Size 2"	Range 0-160#	
Oil Pre-Heater	Type	Serial No.		Steam Regulator	Size	Range	—	
Elec. Oil Heater	Type	Size		Oil Temp. Control	Type	Range	—	
Hot Water Circ. Pump	Type	Motor H.P.	Volts	Oil Strainer	Cuno	Size 3/8"	Type 1C1	Mesh. U30F8
Steam Trap	Type	Size		Oil Reg. Valve	Size			
Oil Pump Drive Shaft — Dia.	Length	Cap'lg	CHFZ3 7/8 x 5/8	Bushing	AA627-04			
Recirculating Oil Valve	Type	Size		Recirculating Needle Valve	Stockham	Type B64	Size 3/8"	

BOILER TRIM		Water Column	MM	Type	#157	Gage Cock	#25 - 1/2"
Water Gage Set	EPP31AL	Gage Glass-Dia.	5/8"	Length	9 1/2"	Type	RL
Low Water Cut Off	Type	Aux. Low Water	MM	Type	#767	Water Therm	Range
Water Feeder	Type	Press. Gage	Size 6"	Range	0-30#		
Water Column Blow Off Valve	Jamesbury	Type	2111	Size	3/4"	Water Glass Blow off Valve	Jamesbury Type 2111 Size 1/4"
Feed Stop Valve	Type	Size		Feed Check Valve	Type	Size	
Slow Opening Blow Off - (1)	UB	Type	225UT	Size	1 1/2"	Quick Opening Blow Off - ()	Type Size
Surface Blow Off	Type	Size		Injector	Type	Size	
Continuous Blow Off	Micrometer Valve	Type		Sight Glass	Type	Blow Off Valve	Type
Safety Valve	Kunkle	Type	300M	Size	3"	No. 1	Set Pressure 15#
Safety Valve	Type	Size		No.		Set Pressure	Relieving Capacity 4901 Lb/Hr
Stack Thermometer	Type	Dial	Size 3"	Range	100-800°F		
Front Peep Sight	#4042 3/4"	Rear Peep Sight	M100 with TB1227	Glass - XXX Clear	Size 2 1/8"		

Damper Control	Model	Feed Pump	Model	Serial No.
Draft Sequence Control	Model	Pump Motor	H.P.	R.P.M.
Draft Damper Actuator	Model	Pump Motor-Elect.	Pump Starter	Type
Draft Gage	Model	Range	Coil Volts	O'Load Relay
Mod. Feed Water Valve	Valve Body	Motor	Linkage	
Valve By-Pass	Type	Size	Strainer	Size

MARINE ACCESSORIES								
Main Probe Assembly	Type	Probe Length	A	B	C	D	E	F
Aux. Probe Assembly	Type	Probe Length	G	H				
Low Water Relay	Type	Aux. Low Water Relay	Type					
Feed Pump Relay	Type	Low Water Alarm Relay	Type					
Pilot Oil Pump	Type	Pilot Meter Valve	Type	G.P.H.				
Burner Air Regulator	Type	Size	Serial No.	Fusible Plug - Size	Fig. No.			
Burner Steam Regulator	Type	Size	Serial No.					
Steam Solenoid Valve	Type	Size	Air Solenoid Valve	Type	Size			
Pilot Air Steam Valve	Type	Size	Sallnometer Valve	Type	Size			
Burner Needle Valve	Type	Size	Pilot Needle Valve	Type	Size			
Low Water Reset Button	Type	Low Water Alarm	Type					
Steam-Air Press. Gage	Size	Range	Atomizing Steam-Air Gage	Size	Range			
Steam Trap	Size	Steam Strainer	Size					

SEE REVERSE SIDE

MFGRS. SERIAL NO. 830401	MFGRS. MODEL NO. FTA 100-4L 155	MANUFACTURER STONE JOHNSON	DATE OF SHEET 23 JAN. 1987
TYPE OF SUPERHEATER	FURNACE VOLUME _____ CU. FT.	OPERATION <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> SEMI-AUTOMATIC <input type="checkbox"/> MANUAL	USE <input type="checkbox"/> EXPORT <input type="checkbox"/> ELEC. POWER GENERATION <input type="checkbox"/> LAID UP - WET <input type="checkbox"/> LAID UP - DRY <input checked="" type="checkbox"/> HEATING
TEMPERATURE AT SUPERHEATER OUTLET _____ °F	HEATING SURFACE (SQ. FT.) 500	PRESSURE (psig) 15 DESIGN 10 MAWP 10 INSTALLED WP	DATE BUILT 1986
NORMAL FEEDWATER TEMPERATURE _____ °F	BOILER _____ WATER WALL _____ ECONOMIZER _____ SUPERHEATER _____	CAPACITY 100 HP 3450 LB./HR. EDR BTU/HR.	DATE INSTALLED DEC. 1986
(See Reverse Side for Fittings)	DRUMS NO. 1 DIAMETER _____ IN. LENGTH _____ FT. _____ IN. <input type="checkbox"/> RIVETED <input type="checkbox"/> FORGE WELDED <input checked="" type="checkbox"/> FUSION WELDED	AIR HEATER <input checked="" type="checkbox"/> NONE <input type="checkbox"/> TUBULAR <input type="checkbox"/> REGENERATIVE <input type="checkbox"/> STEAM	BOILER TYPE <input type="checkbox"/> C.I. <input checked="" type="checkbox"/> WATER TUBE <input checked="" type="checkbox"/> FIRE TUBE DRAFT <input type="checkbox"/> NATURAL <input checked="" type="checkbox"/> FORCED <input type="checkbox"/> INDUCED
			PRODUCES <input checked="" type="checkbox"/> STEAM <input type="checkbox"/> LOW TEMP. WATER <input type="checkbox"/> HIGH TEMP. WATER CIRCULATION <input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> FORCED

FUEL	FUEL & FIRING EQUIPMENT IN SERVICE		ALTERNATE FUEL & FIRING EQUIPMENT	
	COAL	OIL	COAL	OIL
	<input type="checkbox"/> ANTHRACITE <input type="checkbox"/> BITUMINOUS	<input type="checkbox"/> COMMERCIAL 1, 2, 4, 5, 6 <input type="checkbox"/> NAVY <input type="checkbox"/> OTHER _____	<input type="checkbox"/> ANTHRACITE <input type="checkbox"/> BITUMINOUS	<input type="checkbox"/> COMMERCIAL 1, 2, 4, 5, 6 <input type="checkbox"/> NAVY SPECIAL <input type="checkbox"/> OTHER _____
	<input type="checkbox"/> NATURAL <input type="checkbox"/> MANUFACTURED		<input type="checkbox"/> NATURAL <input type="checkbox"/> MANUFACTURED	
FIRING EQUIPMENT	FUEL & FIRING EQUIPMENT IN SERVICE		ALTERNATE FUEL & FIRING EQUIPMENT	
	COAL - HAND FIRED	COAL - PULVERIZER	COAL - HAND FIRED	COAL - PULVERIZER
	<input type="checkbox"/> COAL - STOKER <input type="checkbox"/> UNDERFEED - MULTIPLE RETORT <input type="checkbox"/> UNDERFEED - SINGLE RETORT <input type="checkbox"/> SPREADER - DUMP GRATE <input type="checkbox"/> SPREADER - VIBRATING GRATE <input type="checkbox"/> SPREADER - TRAVELING GRATE <input type="checkbox"/> CHAIN GRATE	<input type="checkbox"/> ATTRITION <input type="checkbox"/> BALL & RACE <input type="checkbox"/> BOWL MILL <input type="checkbox"/> TUBULAR	<input type="checkbox"/> COAL - STOKER <input type="checkbox"/> UNDERFEED - MULTIPLE RETORT <input type="checkbox"/> UNDERFEED - SINGLE RETORT <input type="checkbox"/> SPREADER - DUMP GRATE <input type="checkbox"/> SPREADER - VIBRATING GRATE <input type="checkbox"/> SPREADER - TRAVELING GRATE <input type="checkbox"/> CHAIN GRATE	<input type="checkbox"/> COAL - PULVERIZER <input type="checkbox"/> ATTRITION <input type="checkbox"/> BALL & RACE <input type="checkbox"/> BOWL MILL <input type="checkbox"/> TUBULAR
	<input type="checkbox"/> GAS RING <input type="checkbox"/> VENTURI TYPE	<input type="checkbox"/> MECHANICAL <input type="checkbox"/> STEAM ATOMIZED <input checked="" type="checkbox"/> AIR ATOMIZED <input type="checkbox"/> ROTARY CUP	<input type="checkbox"/> GAS RING <input type="checkbox"/> VENTURI TYPE	<input type="checkbox"/> MECHANICAL <input type="checkbox"/> STEAM ATOMIZED <input type="checkbox"/> AIR ATOMIZED <input type="checkbox"/> ROTARY CUP

FIRING EQUIPMENT MANUFACTURER STONE JOHNSON	PROPERTY NO. 50	BUILDING OR LOCATION A-1	ACTIVITY BOILER 50 MCBCL
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DATA RECORD SHEET - BOILERS
 NAVFAC 9-1101/40 (9-69) Supercedes NAVDOCKS 2509
 S/N 0105-003-7010

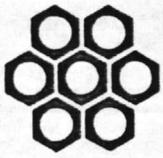
FITTING	NUMBER	SIZE	MANUFACTURER	TYPE	SETTING	RANGE	PRESSURE CLASS
SAFETY VALVES	1	3"	KUNKLE		15		
STEAM OUTLET VALVES	1	8"	STOCKMAN	GATE			125.5
BLOW-OFF VALVES	1	1 1/2"	EVERLASTING	QUICK ACTING			300
FEEDWATER VALVES	1	1"	STOCKMAN	GATE			200
WATER COLUMN	1	1/2"	EUGENE ERNEST				300
FEEDWATER REGULATOR	1	1"	MCDONNELL MILLER	FLOAT			150
WATER GAGES							
STEAM GAGES	1	6"	TREXICE	PRESSURE		0-30	
SOOT BLOWERS							
FUSIBLE PLUGS							

NAT'L BOARD # 7716

#1 LWCO - MCDONNELL # 157

#2 LWCO - MCDONNELL # 767

PROGRAMMER FIREYE 70 D10



Stone Johnston Corporation

300 Pine Street, Ferrysburg, MI 49409
Telephone: (616) 842-5050 / Telex 228-406 / Fax (616) 846-6380

December 19, 1986

Mr. Paul Plybon
Combustion System Sales
1421 Westover Terrace
P.O. Box 29178
Greensboro, North Carolina 27408

Reference: Cutoff points of low water and auxiliary low water cutoff.

Dear Paul:

As per our phone conversation of December 18, this letter confirms that the setting of the McDonnell Miller #157 should shut the burner down with visible water in the glass.

The auxiliary low water cutoff shuts off the burner at a safe lower level and since it is required by U.S.C.G., ABS, Lloyds of London and some insurance requirements that the burner shuts down and a manual reset is required before a recycle can occur. No requirement of water in the glass is necessary. We do have the auxiliary McDonnell Miller #767 in the non-recycle circuit.

If you have any other questions, please do not hesitate to ask.

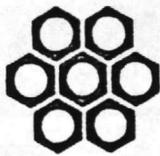
Best regards,

STONE JOHNSTON CORPORATION

Lloyd D. Berwald
Customer Service Manager

LDB:lh

DEN HANSEN



Stone Johnston Corporation

300 Pine Street, Ferrysburg, MI 49409
Telephone: (616) 842-5050 / Telex 228-406 / Fax (616) 846-6380

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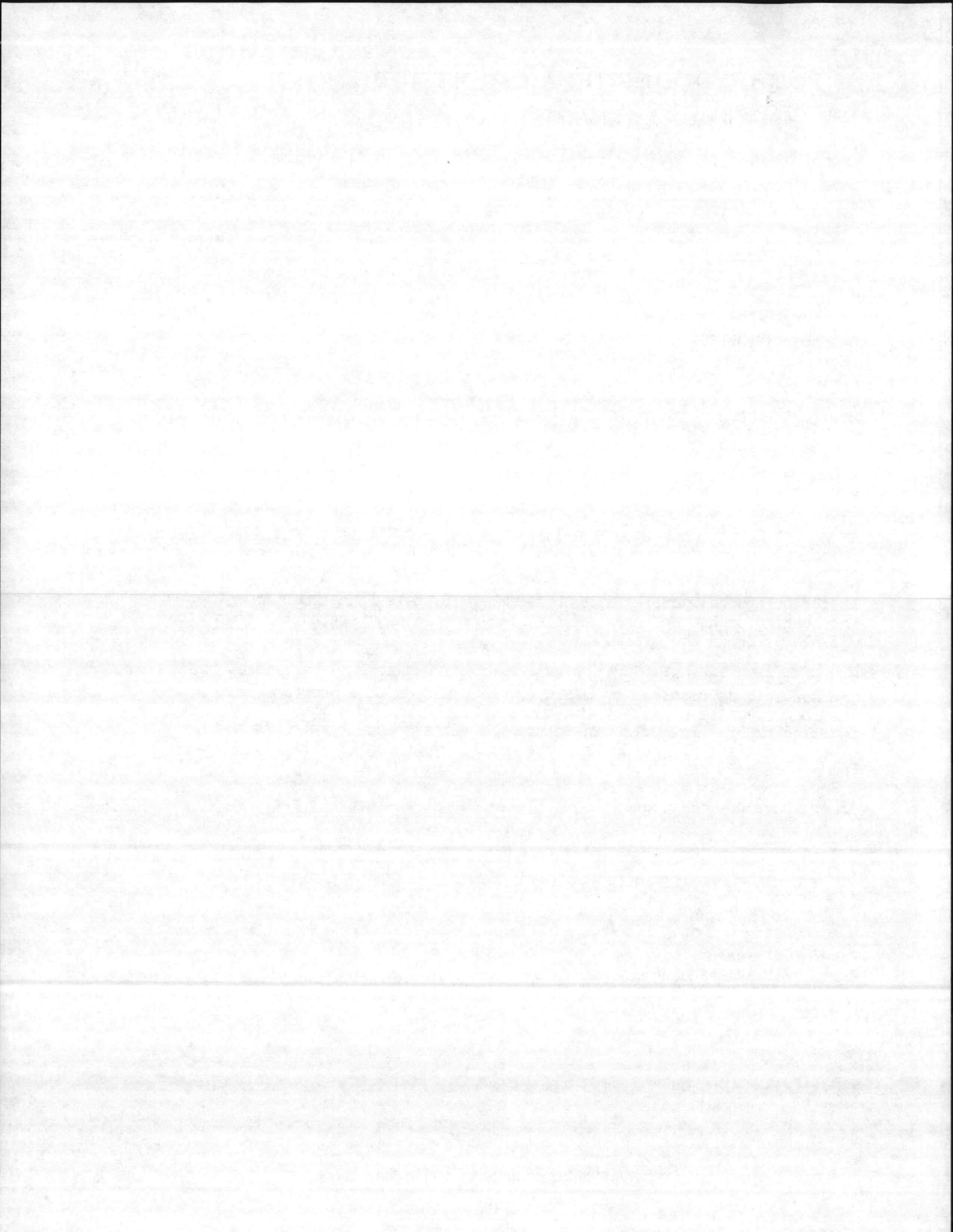
If you have any other questions, please do not hesitate to ask.

Best regards,

STONE JOHNSTON CORPORATION

Lloyd D. Berwald
Customer Service Manager

LDB:lh



MFGRS. SERIAL NO. 830 401	MFGRS. MODEL NO. FTA 100-4L 155	MANUFACTURER STONE JOHNSON	DATE OF SHEET 23 JAN. 1987
TYPE OF SUPERHEATER	FURNACE VOLUME _____ CU. FT.	OPERATION <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> SEMI-AUTOMATIC <input type="checkbox"/> MANUAL	USE <input type="checkbox"/> EXPORT <input type="checkbox"/> ELEC. POWER GENERATION <input type="checkbox"/> LAID UP - WET <input type="checkbox"/> LAID UP - DRY <input checked="" type="checkbox"/> HEATING
TEMPERATURE AT SUPERHEATER OUTLET _____ °F	HEATING SURFACE (SQ. FT.) BOILER 500	PRESSURE (psig) DESIGN 15 MAWP INSTALLED WP 10	DATE BUILT 1986
NORMAL FEEDWATER TEMPERATURE _____ °F	ECONOMIZER SUPERHEATER	CAPACITY 100 HP 3450 LB./HR EDR BTU/HR.	DATE INSTALLED DEC. 1986
(See Reverse Side for Fittings)	DRUMS NO. 1 DIAMETER _____ IN. LENGTH _____ FT. _____ IN. <input type="checkbox"/> RIVETED <input type="checkbox"/> FORGE WELDED <input checked="" type="checkbox"/> FUSION WELDED	AIR HEATER <input checked="" type="checkbox"/> NONE <input type="checkbox"/> TUBULAR <input type="checkbox"/> REGENERATIVE <input type="checkbox"/> STEAM	BOILER TYPE C. I. <input type="checkbox"/> WATER TUBE <input type="checkbox"/> <input checked="" type="checkbox"/> FIRE TUBE DRAFT <input type="checkbox"/> NATURAL <input checked="" type="checkbox"/> FORCED <input type="checkbox"/> INDUCED
			PRODUCES <input checked="" type="checkbox"/> STEAM <input type="checkbox"/> LOW TEMP. WATER <input type="checkbox"/> HIGH TEMP. WATER CIRCULATION <input checked="" type="checkbox"/> NATURAL <input type="checkbox"/> FORCED

FUEL	FUEL & FIRING EQUIPMENT IN SERVICE		ALTERNATE FUEL & FIRING EQUIPMENT	
	COAL	OIL	COAL	OIL
	<input type="checkbox"/> ANTHRACITE <input type="checkbox"/> BITUMINOUS	<input type="checkbox"/> COMMERCIAL 1, 2, 4, 5, 6 <input type="checkbox"/> NAVY <input type="checkbox"/> OTHER _____	<input type="checkbox"/> ANTHRACITE <input type="checkbox"/> BITUMINOUS	<input type="checkbox"/> COMMERCIAL 1, 2, 4, 5, 6 <input type="checkbox"/> NAVY SPECIAL <input type="checkbox"/> OTHER _____
	GAS <input type="checkbox"/> NATURAL <input type="checkbox"/> MANUFACTURED		GAS <input type="checkbox"/> NATURAL <input type="checkbox"/> MANUFACTURED	

FIRING EQUIPMENT	FUEL & FIRING EQUIPMENT IN SERVICE		ALTERNATE FUEL & FIRING EQUIPMENT	
	COAL - STOKER	COAL - PULVERIZER	COAL - STOKER	COAL - PULVERIZER
	<input type="checkbox"/> COAL-HAND FIRED <input type="checkbox"/> UNDERFEED - MULTIPLE RETORT <input type="checkbox"/> UNDERFEED - SINGLE RETORT <input type="checkbox"/> SPREADER - DUMP GRATE <input type="checkbox"/> SPREADER - VIBRATING GRATE <input type="checkbox"/> SPREADER - TRAVELING GRATE <input type="checkbox"/> CHAIN GRATE	<input type="checkbox"/> ATTRITION <input type="checkbox"/> BALL & RACE <input type="checkbox"/> BOWL MILL <input type="checkbox"/> TUBULAR	<input type="checkbox"/> COL-HAND FIRED <input type="checkbox"/> UNDERFEED - MULTIPLE RETORT <input type="checkbox"/> UNDERFEED - SINGLE RETORT <input type="checkbox"/> SPREADER - DUMP GRATE <input type="checkbox"/> SPREADER - VIBRATING GRATE <input type="checkbox"/> SPREADER - TRAVELING GRATE <input type="checkbox"/> CHAIN GRATE	<input type="checkbox"/> ATTRITION <input type="checkbox"/> BALL & RACE <input type="checkbox"/> BOWL MILL <input type="checkbox"/> TUBULAR
	GAS <input type="checkbox"/> GAS RING <input type="checkbox"/> VENTURI TYPE	OIL BURNERS <input type="checkbox"/> MECHANICAL <input type="checkbox"/> STEAM ATOMIZED <input checked="" type="checkbox"/> AIR ATOMIZED <input type="checkbox"/> ROTARY CUP	GAS <input type="checkbox"/> GAS RING <input type="checkbox"/> VENTURI TYPE	OIL BURNERS <input type="checkbox"/> MECHANICAL <input type="checkbox"/> STEAM ATOMIZED <input type="checkbox"/> AIR ATOMIZED <input type="checkbox"/> ROTARY CUP

FIRING EQUIPMENT MANUFACTURER STONE JOHNSON	PROPERTY NO. 50	BUILDING OR LOCATION A-1	ACTIVITY BOILER 50
-------------------------------------------------------	---------------------------	------------------------------------	------------------------------

DATA RECORD SHEET - BOILERS
 NAVFAC 9-11014/40 (9-69) Supersedes NAVDOCKS 2509
 S/N 0105-003-7010

BOILER 50 | MCBCL

FITTING	NUMBER	SIZE	MANUFACTURER	TYPE	SETTING	RANGE	PRESSURE CLASS
SAFETY VALVES	1	3"	KUNKLE		15		
STEAM OUTLET VALVES	1	8"	STOCKMAN	GATE			1255
BLOW-OFF VALVES	1	1 1/2"	EVERLASTING	QUICK ACTING			300
FEEDWATER VALVES	1	1"	STOCKMAN	GATE			200
WATER COLUMN	1	1/2"	EUGENE ERNEST				300
FEEDWATER REGULATOR	1	1"	MCDONNELL MILLER	FLOAT			150
WATER GAGES							
STEAM GAGES	1	6"	TREXICE	PRESSURE		0-30	
SOOT BLOWERS							
FUSIBLE PLUGS							

NAT'L BOARD # 7716

1 LWCO - MCDONNELL # 157

2 LWCO - MCDONNELL # 767

PROGRAMMER FIREYE 70D10

BOILER INSPECTION CHECK LIST

LOCATION

BLDG NO.

BOILER NO.

DATE

WED Boiler

A-1

50

11 DEC. 84

BOILER MFG.

OPERATING PRESS.

DESIGN PRESS.

CAP.

SERIAL NO.

MODEL NO.

N.B. NO.

BURNER MFG.

FIRING RATE:

STEAM GAGE NAME:

PRESS.

TEST

SV MFG

CAP

NO.

SIZE

NO. 1

SET

OPEN

CLOSE

NO. 2

SET

OPEN

CLOSE

NO. 3

SET

OPEN

CLOSE

CO2%

02%

STACK TEMP

COMB. EFF.

PURGE TIME

NO. 1 FIREYE

C/O

OK (3SEC) (LIGHT)

A/L

NO. 2 FIREYE

C/O

A/L

HI-STEAM TEMP. C/O

A/L

EXCESS STEAM TEMP. C/O

A/L

HI OIL TEMP. C/O

A/L

HI OIL PRESS. C/O

A/L

LO OIL TEMP. C/O

A/L

LO OIL PRESS. C/O

A/L

LO ATOM AIR/STEAM C/O

A/L

NO. 1 LW C/O

OK C/O LIGHT

A/L

NO. 2 LW C/O

A/L

LO FURNACE DRAFT C/O

A/L

LO FIRE START C/O

A/L

TYPE OF FUEL

YEAR BUILT

A/L

HEAT SURFACE

Boiler

WATER WALL

REMARKS:

1. NO FUEL OIL FILTER

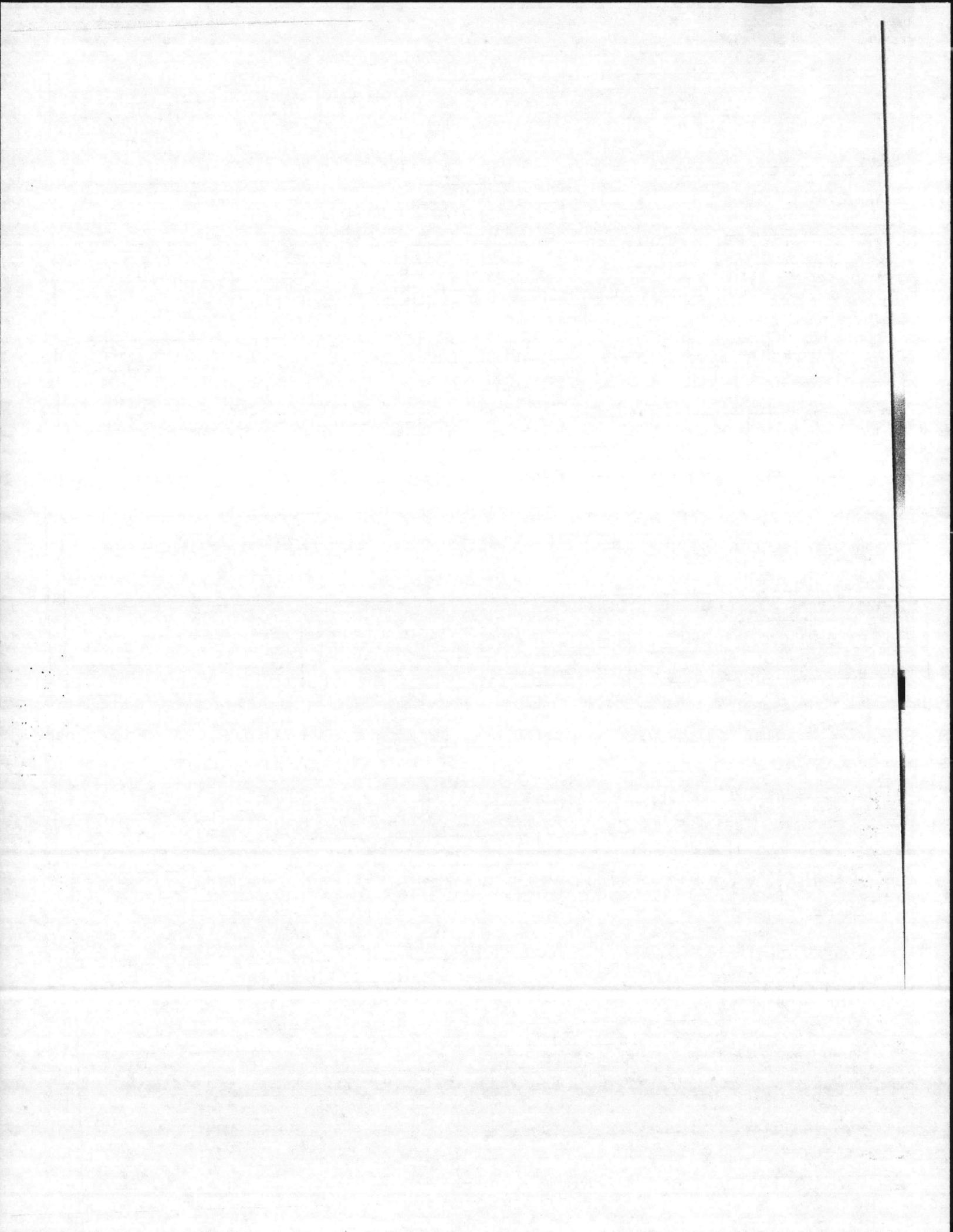
2. PILOT FUEL OIL (VERY CRITICAL) INSTALL ORIGINAL ORFACE

3. HI-FIRE PURGE SWITCH NOT WORKING.

4. OIL METON SUPPLY & RETURN NOT WORKING

5. OIL LEAKS AT BURNER.

6. 70 D 20 PROGRAMER - SHOULD BE 70 D 10



JOHNSTON PACKAGED BOILER FACTORY RECORD

A-1 #50

DEC. 86

S.O. 8304		Unit 1100-4L15S		Pressure 15#	Boiler Serial 830401	Oil #2	Gas Press. Req'd	Und. Label	Insurance Code UL	
BURNER		Compressor Quinch	Type 210	Serial No.		Swirler PA915				
Motor Pulley O.D.	BK40	Bore 7/8"	Belts-No. 1	Size 5L490	Burner Holder PQ95	Air Relief Valve				
Nozzle Delavan		Type 30615-44	Size 40GPH	No. 1	Angle Std	Nozzle Body Delavan	Type 23034			
VALVES		Oil (1) GC Valve	Size 3/8	Type K10AB173	Gas Mod. Valve	Size	Type	Test Cock	Size	
Gas Valve		Size	Type	Body	Type Actuator					
Aux. Gas Valve		Size	Type	Body	Type Actuator					
Vent Valve		Size	Type		Gas Shut-Off Cock	Size	Oil Mod. Valve NA 1813M-02D	Size 3/8"		
IGNITION		No. (2) Electrode 3A12-10	Rajah Fitting Yes	Hi-Voltage Wire Length	Pilot Body 28737-1 Delavan w/Delavan 2.0 GPH					
Pilot Valve Honeywell		size 3/8	Type V4046B1007	XXXXX Pilot Air Regulator	XXXXX Cash	Type A31S 1/4"	Sec. Volt.	Pilot Cock		
Direct Spark Ignition Trans.		Webster	Type 312-24A02	Sec. Volt. 6000	Hi-Voltage Wire Length 24"	Pilot Nozzle - 1613-60°				
BLOWER		SJC	Size R825-30	Bore 5/8"	Wheel Dia.	Wheel Width				
Motor Pulley O.D.		Bore	Shaft Pulley O.D.	Bore	Shaft Size - Dia.	Length				
ELECTRICAL		Panel	Serial No.	Volts 230	Ph. 3	Cyc 60	Panel Lock			
Indicating Lights Dialight		Type 57F3733	Bulb Size 6W	Volt 115	Control Volt Trans. 9T51B8		Sec. Volt			
Main Switch 2607D89G11		Type	Amp. Volt.	Fuel Select Switch	Type	Amp Volt.	Burner Switch CH	Type 7501K15	Amp Volt.	
Modutrol Switch		Type	Amp. Volt.	Silencing Switch	Type	Amp Volt.	Oil Pump Switch	Type	Amp Volt.	
Day-Nite Switch		Type	Amp. Volt.	Silencing Switch	Type	Amp Volt.	Auto-Manual Mod. Switch CH	Type 7565K7	Volt.	
Electronic Program Relay Fireye		Type 70D10	Model	Serial No.						
Electronic Scanner Fireye		Type 48PT2	Model 9003							
Modutrol Motor Honeywell		Type M941D1047	Speed							
Modutrol Aux. Switch		Type	25 Volt Trans. AT72D							
Manual Potentiometer Honeywell		Type 105364BUA								
D.C. Voltmeter		Type								
XXXXX Purge Air Switch Honeywell		Type C645A1022								
Operating Control Honeywell		Type L404A1354	Range 2 - 15#							
Modulating Control Honeywell		Type L91A1037	Range 0 - 15#							
Hi Limit Control Honeywell		Type L404A1354	Range 2 - 15#							
XXXXXXX Low Fire Hold Honeywell		Type L4006B1171	Range 100 -240°							
Nite Modulate Control		Type	Range -							
Primary Air Switch Honeywell		Type L404B1320	Range 2 - 50#							
Secondary Air Switch Honeywell		Type C645A1022	Range 3 - 21"							
Hi Gas Press. Switch		Type	Range -							
Lo Gas Press. Switch		Type	Range -							
Oil Press Switch		Type	Range -							
Hi Temp. Oil Limit		Type	Range -							
Alarm		Type	Temp. Setting	Alarm Relay	Type					
Alarm Silence Relay		Type		Low Water Relay	Type					
Combustion Air Relay		Type		Low Fire Relay	Type					
Air Flow & Gas Press. Relay		Type		Time Delay Relay	Type					
Flame Failure & Excessive Temp. Relay		Type		Burner Position Switches	Type					
Low Water & High Boiler Press. Relay		Type		Hi Fire Aux. Relay	Type					
Fusible Link Switch		Type	Temp. Setting							
TEST	OIL	Low Fire	Mod. Valve 3	Oil Press. 60#	Air Press. 20#	Gph. 4.5	Co2			
		High Fire	Mod. Valve 5 5/8	Oil Press. 60#	Air Press. 42#	Gph. 30.3	Co2			
	GAS	Low Fire	Regulated Pressure	Man. Press.	Cfh	Co2				
		High Fire	Regulated Pressure	Man. Press.	Cfh	Co2				
Mizzou Plastic	# Handhole Gasket-No.	Size	Handhole Gasket-No.	6	Size #3	Manhole Gasket-Size #6	Flue Brush Size 1 3/4"			

Date October 15, 1986 Owner Amphibian Troop Area - Bldg A1
 Inspected and Approved By E Wessel - H. Smith Address Camp LeJeune, North Carolina

SEE REVERSE SIDE

JOHNSTON PACKAGED BOILER FACTORY RECORD

GAS ACCESSORIES		Main Gas Regulator	Size	Type	Spring
Regulated Press. Gage - Range	—	Manifold Press. Gage - Range	—	Pilot Regulator	Size Type
OIL CIRCULATION		Oil Pump	Webster	Type 2R656D	Serial No. G.P.H. R.P.M.
Pump Pulley O.D.	Motor Pulley O.D.	Bore	Belts Size	No.	Flow Control Valve Size
Vacuum Gage	Size Range	—	Pressure Gage	Ashcroft	Size 2" Range 0-160#
Oil Thermometer	Type	Range	—	Compressor Air Gage	Ashcroft Size 2" Range 0-160#
Oil Pre-Heater	Type	Serial No.	Steam Regulator	Size	Range —
Elec. Oil Heater	Type	Size	Oil Temp. Control	Type	Range —
Hot Water Circ. Pump	Type	Motor H.P.	Volts	Oil Strainer	Cuno Size 3/8" Type 101 Mesh. U30F8
Steam Trap	Type	Size	Oil Reg. Valve	Size	
Oil Pump Drive Shaft — Dia.	Length	Co'lg	CHFZ3 7/8 x 5/8	Bushing	AA627-04
Recirculating Oil Valve	Type	Size	Recirculating Needle Valve	Stockham	Type B64 Size 3/8"

BOILER TRIM		Water Column	MM	Type	#157	Gage Cock	#25 - 1/2"
Water Gage Set	EEP31AL	Gage Glass-Dia.	5/8"	Length	9 1/2"	Type	RL
Low Water Cut Off	Type	Aux. Low Water	MM	Type	#767	Water Therm	Range
Water Feeder	Type	Press. Gage	Size	6"	Range	0-30#	
Water Column Blow off Valve	Jamesbury	Type	2111	Size	3/4"	Water Glass Blow off Valve	Jamesbury Type 2111 Size 1/4"
Feed Stop Valve	Type	Size		Feed Check Valve	Type	Size	
Slow Opening Blow Off - (1)	UB	Type	225UT	Size	1 1/2"	Quick Opening Blow Off - ()	Type Size
Surface Blow Off	Type	Size		Injector	Type	Size	
Continuous Blow Off	Micrometer Valve	Type		Sight Glass	Type	Blow Off Valve	Type
Safety Valve	Kunkle	Type	300M	Size	3"	No. 1 Set Pressure	15# Relieving Capacity 4901 Lb/Hr
Safety Valve	Type	Size		No.		Set Pressure	Relieving Capacity
Stack Thermometer	Type	Dial	Size	3"	Range	100-800°F	
Front Peep Sight	#4042 3/4"	Rear Peep Sight	M100 with TB1227	Glass - Clear	Size	2 1/8"	

Damper Control	Model	Feed Pump	Model	Serial No.
Draft Sequence Control	Model	Pump Motor	H.P.	R.P.M. Frame
Draft Damper Actuator	Model	Pump Motor - Elect.	Pump Starter	Type
Draft Gage	Model	Range	Coil Volts	O'Load Relay
Mod. Feed Water Valve	Valve Body	Motor	Linkage	
Valve By-Pass	Type	Size	Strainer	Size

MARINE ACCESSORIES		Probe Length	A	B	C	D	E	F
Main Probe Assembly	Type	—						
Aux. Probe Assembly	Type	Probe Length	G	H				
Low Water Relay	Type	Aux. Low Water Relay	Type					
Feed Pump Relay	Type	Low Water Alarm Relay	Type					
Pilot Oil Pump	Type	Pilot Meter Valve	Type				G.P.H.	
Burner Air Regulator	Type	Size	Serial No.	Fusible Plug - Size	Fig. No.			
Burner Steam Regulator	Type	Size	Serial No.					
Steam Solenoid Valve	Type	Size	Air Solenoid Valve	Type	Size			
Pilot Air Steam Valve	Type	Size	Salinometer Valve	Type	Size			
Burner Needle Valve	Type	Size	Pilot Needle Valve	Type	Size			
Low Water Reset Button	Type		Low Water Alarm	Type				
Steam-Air Press. Gage	Size	Range	Atomizing Steam-Air Gage	Size	Range			
Steam Trap	Size		Steam Strainer	Size				

SEE REVERSE SIDE

**FORM H-2 MANUFACTURERS' DATA REPORT FOR ALL TYPES OF BOILERS
EXCEPT WATERTUBE AND THOSE MADE OF CAST IRON
As Required by the Provisions of the ASME Code Rules**

1. Manufactured and Certified by Stone Johnston Corp. 300 Pine St., Ferrysburg, MI 49409
(Name and address of manufacturer)

2. Manufactured for Amphibian Troop Area, Camp Lejeune, NC 28542
(Name and address of purchaser)

3. Location of Installation Building A-1, Courthouse Road, Camp Lejeune, NC 28542
Firetube Scotch
(Name and address)

4. Unit Identification Marine ID Nos. 830401 11P-11-6 7716 1986
(Complete boiler, superheater, water wall, economizer, etc.) (Mfr. Serial No.) (CRN) (Drawing No.) (Nat'l Brd. No.) (Year Built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section IV, 1983 and Addenda to Winter 1985
(Year) (Date)

Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: None

6. Boiler Shells or Drums: No. One Dia. 60" I.D. Length 108 1/2" Dia. _____ Length _____
(Name of part, item number, mfr's name and identifying stamp)

7. Shell Plates SA-285-C 3/8"
(For each shell or drum state: material specification no. & grade, nominal thickness)

8. Longitudinal Joint(s) Welded Butt Joint Efficiency 85%
(Seamless, Welded) (As compared to seamless)

9. Girth Joint(s) None No. of Shell Courses One
(Seamless, Welded)

10. Tube Sheet SA-516-70 1/2" Tube Holes 2+1/32"
(Mat'l Spec., Grade, Thickness) (Dia.)

11. Boiler Tubes: No. 110 SA-178-A Straight
(Mat'l Spec., Grade) (Straight or Bent)

Dia. 2" Length 108 1/2", 80 1/2" Gauge #13 B.W.G.
(If various, give max. & min.) (or thickness)

12. Heads SA-516-70 1/2" Flat
(Material Specification No.; Thickness—Flat, Dished, Ellipsoidal—Radius of Dish)

13. Furnace No. One Size 24" O.D. Length, each section _____ Total 86-3/4"
(O.D. or W x H)

Type Plain
(Plain, Corrugated, etc.)

Seams: Type Seamless SA-106-B Thickness .375"
(Seamless, Welded) (Mat'l Spec. & Gr.)

14. Staybolts: No. None Size _____
(Diam., Mat'l. Spec. Grade Size Telltale, Net Area)

Pitch _____ Design Pressure _____ psi.
(Hor. and Vert.)

15. Stays or Braces

Location	Material Spec.	Type	No. & Size	Pitch	Total Net Area	Fig. HG-343 L/1	Dist. Tubes to Shell	Area to be Stayed	Design Pressure, psi.
(a) F. H. above tubes	N	O	N	E					
(b) R.H. above tubes									
(c) F.H. below tubes									
(d) R.H. below tubes									
(e) Through stays									

16. Other Parts: 1. Blowoff piping 2. Feedwater piping 3. _____
(Brief Description—i.e. Dome, Boiler Piping, etc.)

1. 1-1/2" threaded pipe, SA-53-B, Sch. 80

2. 1" threaded pipe, SA-53-B, Sch. 80

3. _____

17. Openings: (a) Steam One 8" X 150# S.D. (b) Safety Valve One 3" X 300# F.C.
(No., Size, and Type)

(c) Blowoff Two 1 1/2" X 300# F.C. Bottom (d) Feed One 1" X 300# F.C. Right Side
(No., Size, Type, and Location)

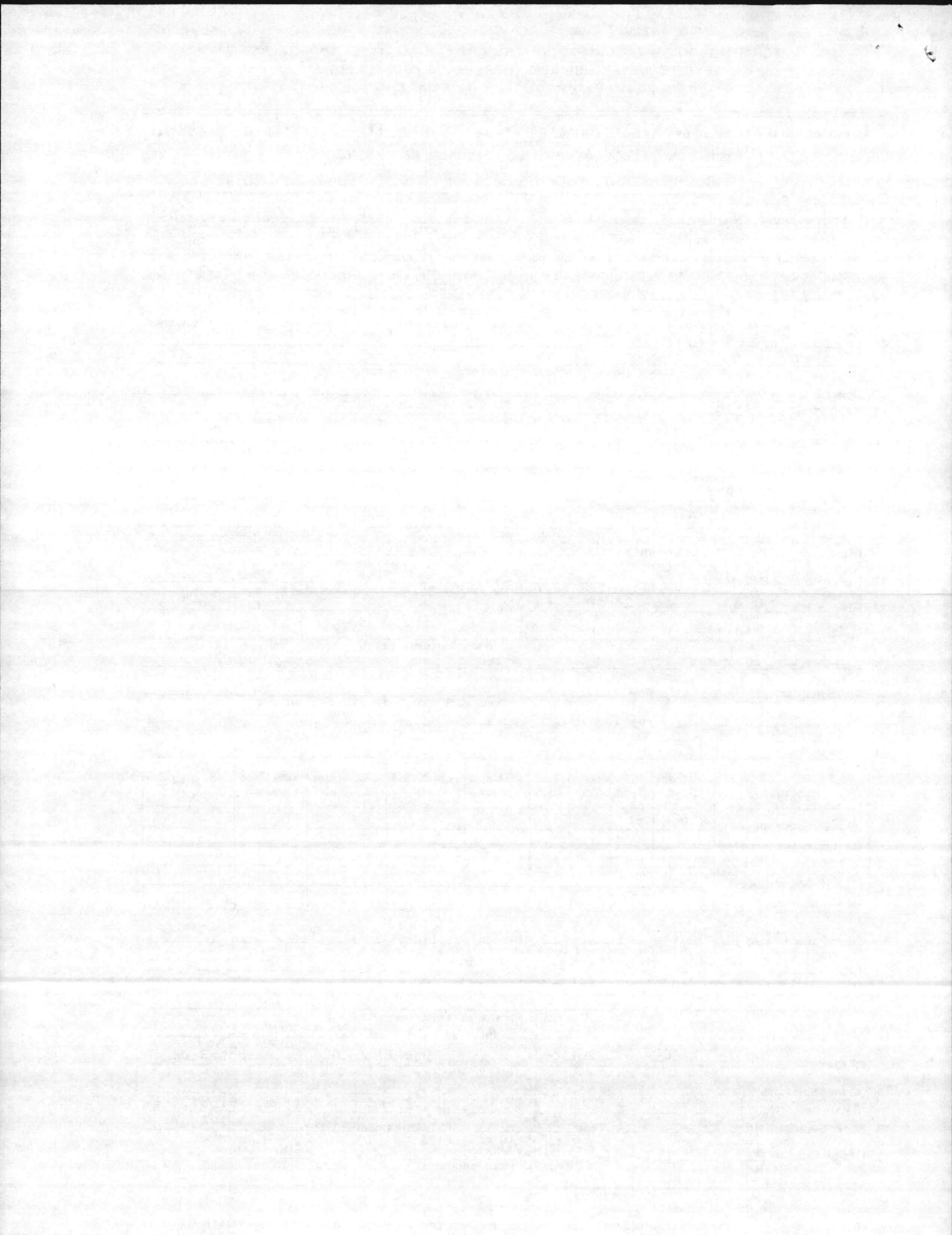
(e) Manholes: No. One Size 11" X 15" Location Upper rear head
(No., Size, Type, and Location)

(f) Handholes: No. Six Size 3 1/4" X 5" Location 2-Front, 1-Bottom, 1-Right, 1-Left,

18. Boiler Supports: No. Two Type Saddles Attachment Welded 1-Rear
(Saddles, Legs, Lugs) (Boiled or Welded)

19. Design Pressure 30 psi Based On (43.5) HG-340 Heating Surface 500 sq ft or kW
(Code Par. and/or Formula) (Total)

20. Shop Hydrostatic Test 60 psig.
(Complete Boiler)



FORM H-2 (BACK)

Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: None

(Name of part, item number, mfr's name, and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify the statement in this data report to be correct.

Date 24 Sept. 1986 Signed Stone Johnston Corp. (Manufacturer) by Gordon Royce (Authorized Representative) to use the (H) H symbol expires Our Certificate of Authorization No. 819 March 30, 1987

CERTIFICATE OF SHOP INSPECTION

Boiler made by Stone Johnston Corporation at Ferrysburg, MI I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Michigan and employed by H.S.B.I. & Ins. Co. of Hartford, CT have inspected parts of this boiler referred to as data items 1-20 inclusive and have examined Manufacturer's Partial Data Reports for items None

and state that, to the best of my knowledge and belief, the Manufacturer has constructed this boiler in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the boiler described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 24 September 1986 Signed Richard E. Ball (Inspector) Commissions NB-7607 MI-414 (Nat'l Board, State, Province and No.)

CERTIFICATE OF COMPLIANCE

We certify that the field assembly of all parts of this boiler conforms with the requirements of SECTION IV of the ASME BOILER AND PRESSURE VESSEL CODE.

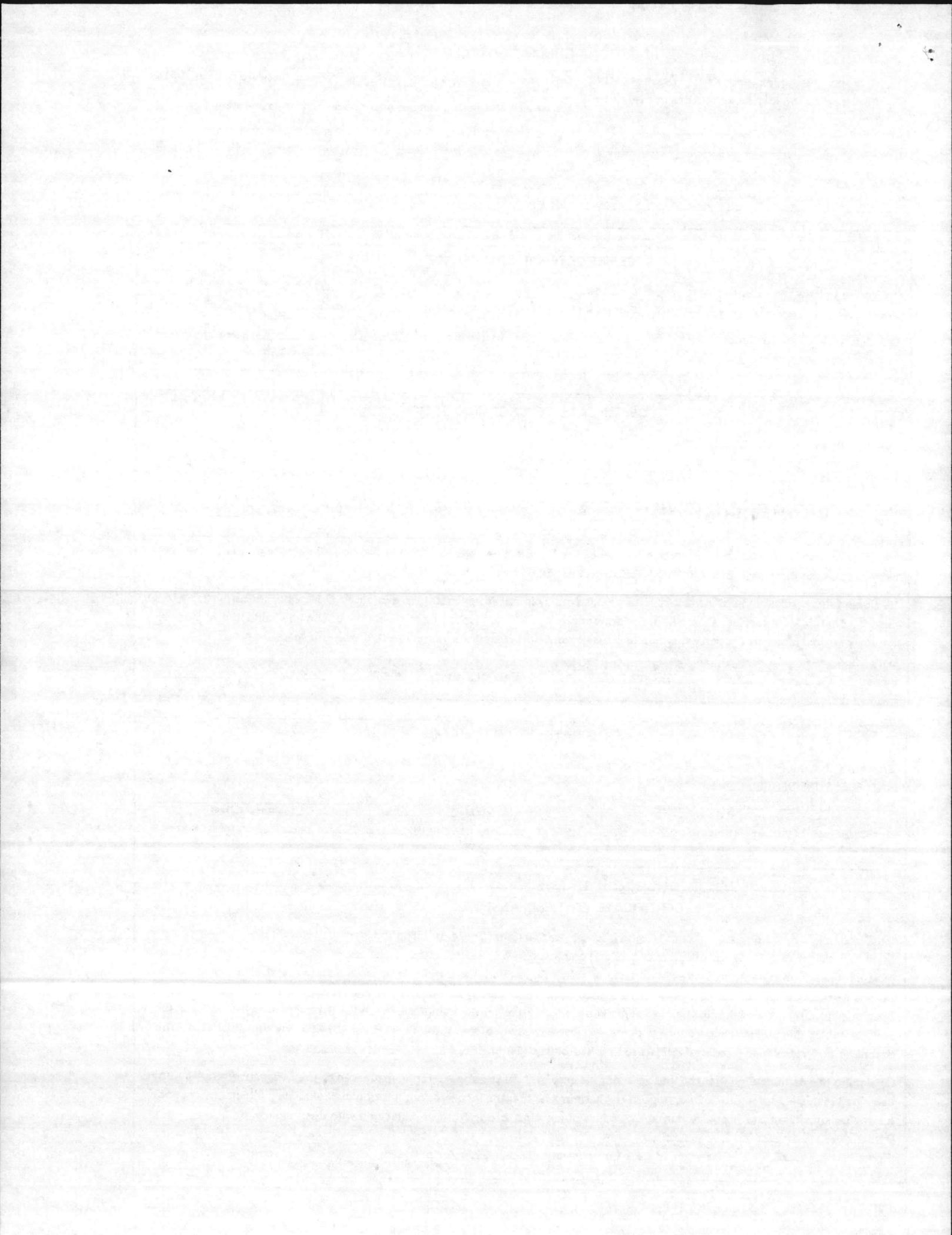
Date _____ Signed _____ (Assembler) By _____ (Representative) Our Certificate of Authorization No. _____ to use the (H) _____ symbol expires _____ 19 _____

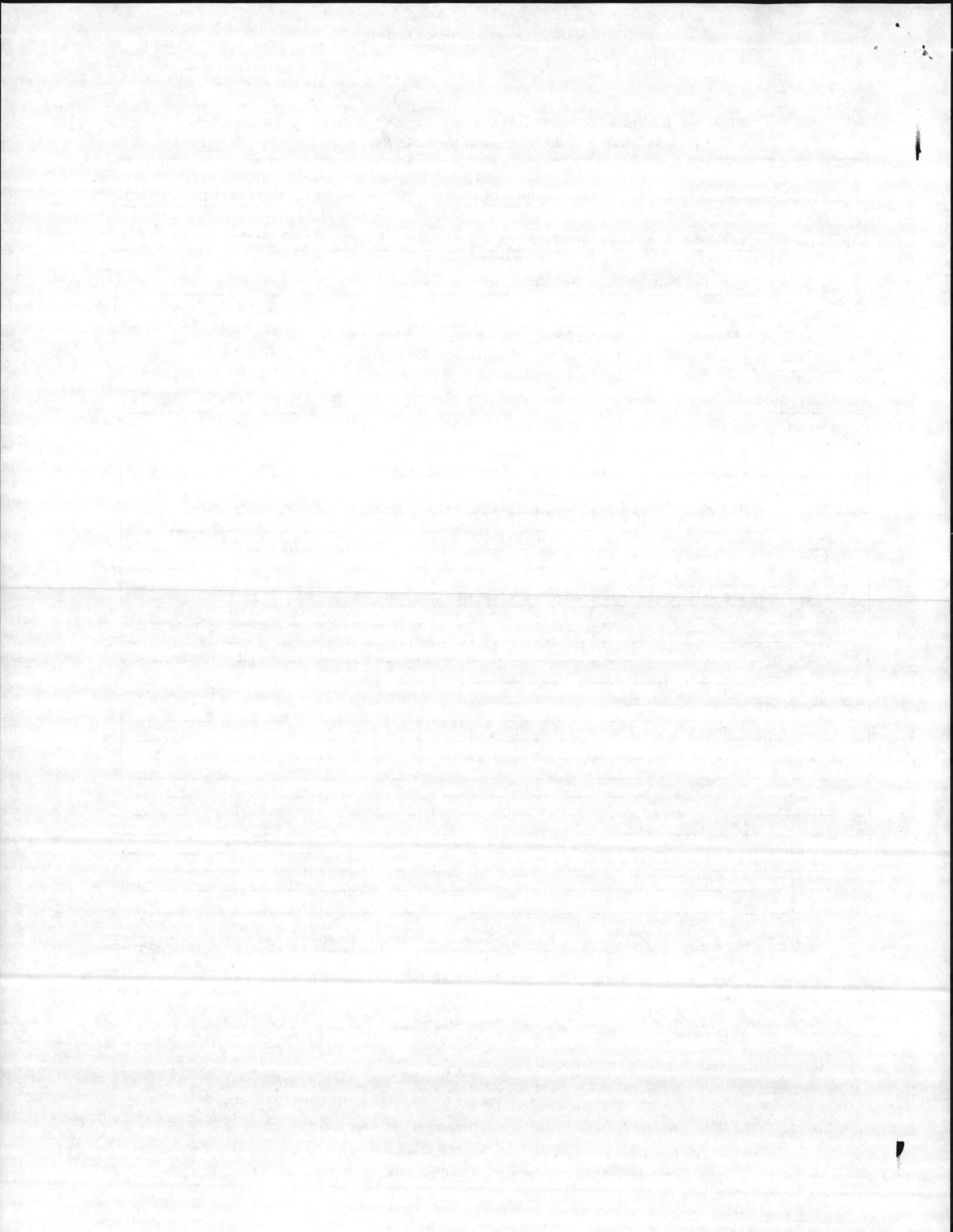
CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____ of _____ have compared the statements in this Manufacturer's Data Report with the described boiler and state that the parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief the Manufacturer and/or the assembler has constructed and assembled this boiler in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE. The described boiler was inspected and subjected to a hydrostatic test of _____ psi.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the boiler described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ (Inspector) Commissions _____ (Nat'l Board, State, Province and No.)





DATE OF INSPECTION
 8-18 DEC 1986

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
 NAVFACENGCOM
 NORFOLK, VA

14. CERTIFICATE ISSUED YES NO
 EXPIRES 8 DEC 1987
 15. BOILER INSPECTOR
 Thomas L. Lonsie
 NAVY OR NATIONAL BOARD NO.
 NAVFAC 239
 16. REASON FOR NOT ISSUING CERTIFICATE

BOILER DATA

3. MANUFACTURER
 STONE JOHNSON CORP
 4. PROPERTY NO. 50
 5. MFG. SERIAL NO. 830401
 6. MFG. MODEL NO. FTA 100-4L 155
 7. BUILDING NO. A-1
 8. YEAR BUILT 1986
 9. CAPACITY 3450 LB/HR
 10. FUEL (Check)
 COAL OIL GAS
 11. PRESSURE
 DESIGNED 15 psi OPERATING 10 psi TEST 22 psi
 12. FEED WATER TREATMENT
 SATISFACTORY UNSATISFACTORY
 13. TYPE
 WATER TUBE FIRE TUBE C. I.

NAVFAC COPY

17. BOILER USE HEATING
 18. COMBUSTION CONTROL (Mfg. Name) FIRE VE
 19. COMBUSTION 12.2 % CO₂ 4.5 % EXCESS O₂
 20. FLUE GAS TEMPERATURE
 AFTER BOILER 350 °F : AFTER HEAT TRAP °F

SAFETY DEVICES
 SAFETY VALVES

21. MANUFACTURER KUNKLE
 22. NUMBER AND SIZE 1-3"
 23. PSI SETTING 15
 24. CONDITION SAT.

STEAM PRESSURE GAUGE

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

FIRING EQUIPMENT

ITEM	IN SERVICE	ALTERNATE
28. MANUFACTURER	STONE JOHNSON	
29. TYPE	NOZZLE SPRAY-AIR ATOM	
30. FUEL GRADE	#2	

31. INSPECTOR'S COMMENTS

CONTRACT # 85-6306

NEW BOILER INSTALLED AND WILL REMAIN SAME PROPERTY NO AS OLD UNIT.

32. ATTACHMENT(S) (Check)

COPY OF INSPECTOR'S REPORT SPECIAL COMMENTS

33. SIGNATURE

Timothy Jewell 1/23/87
 BY DIRECTION



Stone Johnston Corporation

300 Pine Street, Ferrysburg, MI 49409

Telephone: (616) 842-5050 / Telex 228-406 / Fax (616) 846-6380

December 19, 1986

Mr. Paul Plybon
Combustion System Sales
1421 Westover Terrace
P.O. Box 29178
Greensboro, North Carolina 27408

Reference: Cutoff points of low water and auxiliary low water cutoff.

Dear Paul:

As per our phone conversation of December 18, this letter confirms that the setting of the McDonnell Miller #157 should shut the burner down with visible water in the glass.

The auxiliary low water cutoff shuts off the burner at a safe lower level and since it is required by U.S.C.G., ABS, Lloyds of London and some insurance requirements that the burner shuts down and a manual reset is required before a recycle can occur. No requirement of water in the glass is necessary. We do have the auxiliary McDonnell Miller #767 in the non-recycle circuit.

If you have any other questions, please do not hesitate to ask.

Best regards,

STONE JOHNSTON CORPORATION

Lloyd D. Berwald
Customer Service Manager

LDB:lh

MFGRS. SERIAL NO.

830401

MFGRS. MODEL NO.

FTA 100-4L 155

MANUFACTURER

STONE JOHNSON

DATE OF SHEET

23 JAN. 1987

TYPE OF SUPERHEATER

FURNACE VOLUME

CU. FT.

OPERATION

USE

DATE BUILT

1986

DATE INSTALLED

DEC. 1986

TEMPERATURE AT SUPERHEATER OUTLET

HEATING SURFACE (SQ. FT.)

BOILER 500

- AUTOMATIC
 SEMI-AUTOMATIC
 MANUAL

- EXPORT
 ELEC. POWER GENERATION
 LAID UP - WET
 LAID UP - DRY
 HEATING

NORMAL FEEDWATER TEMPERATURE

WATER WALL

ECONOMIZER

SUPERHEATER

PRESSURE (psig)

DESIGN 15
 MAWP 10
 INSTALLED WP

CAPACITY

100 HP
 3450 LB./HR
 EDR
 BTU/HR.

BOILER

TYPE DRAFT

- C.I.
 WATER TUBE
 FIRE TUBE
 NATURAL
 FORCED
 INDUCED

PRODUCES

- STEAM
 LOW TEMP. WATER
 HIGH TEMP. WATER
 NATURAL
 FORCED

(See Reverse Side for Fittings)

DRUMS

NO. 1

DIAMETER IN.

LENGTH FT. IN.

- RIVETED
 FORGE WELDED
 FUSION WELDED

AIR HEATER

- NONE
 TUBULAR
 REGENERATIVE
 STEAM

FUEL & FIRING EQUIPMENT IN SERVICE

ALTERNATE FUEL & FIRING EQUIPMENT

COAL

- ANTHRACITE
 BITUMINOUS

OIL

- COMMERCIAL 1, 2, 4, 5, 6
 NAVY
 OTHER

GAS

- NATURAL
 MANUFACTURED

COAL

- ANTHRACITE
 BITUMINOUS

OIL

- COMMERCIAL 1, 2, 4, 5, 6
 NAVY SPECIAL
 OTHER

GAS

- NATURAL
 MANUFACTURED

FIRING EQUIPMENT

- COAL-HAND FIRED
 COAL - STOKER
 UNDERFEED - MULTIPLE RETORT
 UNDERFEED - SINGLE RETORT
 SPREADER - DUMP GRATE
 SPREADER - VIBRATING GRATE
 SPREADER - TRAVELING GRATE
 CHAIN GRATE
 GAS
 GAS RING
 VENTURI TYPE

COAL - PULVERIZER

- ATTRITION
 BALL & RACE
 BOWL MILL
 TUBULAR

OIL BURNERS

- MECHANICAL
 STEAM ATOMIZED
 AIR ATOMIZED
 ROTARY CUP

COAL-HAND FIRED

- COAL - STOKER
 UNDERFEED - MULTIPLE RETORT
 UNDERFEED - SINGLE RETORT
 SPREADER - DUMP GRATE
 SPREADER - VIBRATING GRATE
 SPREADER - TRAVELING GRATE
 CHAIN GRATE
 GAS
 GAS RING
 VENTURI TYPE

COAL - PULVERIZER

- ATTRITION
 BALL & RACE
 BOWL MILL
 TUBULAR

OIL BURNERS

- MECHANICAL
 STEAM ATOMIZED
 AIR ATOMIZED
 ROTARY CUP

FIRING EQUIPMENT MANUFACTURER

STONE JOHNSON

PROPERTY NO.

50

BUILDING OR LOCATION

A-1

BOILER 50

ACTIVITY

MCBCL

DATA RECORD SHEET - BOILERS
 NAVFAC 9-11014/40 (9-69) Supersedes NAVDOCKS 2509
 S/N 0105-003-7010

FITTING	NUMBER	SIZE	MANUFACTURER	TYPE	SETTING	RANGE	PRESSURE CLASS
SAFETY VALVES	1	3"	KUNKLE		15		
STEAM OUTLET VALVES	1	8"	STOCKMAN	GATE			1255
BLOW-OFF VALVES	1	1 1/2"	EVERLASTING	QUICK ACTING			300
FEEDWATER VALVES	1	1"	STOCKMAN	GATE			200
WATER COLUMN	1	1/2"	EUGENE ERNEST				300
FEEDWATER REGULATOR	1	1"	MCDONNELL MILLER	FLOAT			150
WATER GAGES							
STEAM GAGES	1	6"	TRE RICE	PRESSURE		0-30	
SOOT BLOWERS							
FUSIBLE PLUGS							

NAT'L BOARD # 7716

#1 LWCO - MCDONNELL # 157

#2 LWCO - MCDONNELL # 767

PROGRAMMER FIREYE 70D10

**FORM H-2 MANUFACTURERS' DATA REPORT FOR ALL TYPES OF BOILERS
EXCEPT WATERTUBE AND THOSE MADE OF CAST IRON
As Required by the Provisions of the ASME Code Rules**

1. Manufactured and Certified by Stone Johnston Corp. 300 Pine St., Ferrysburg, MI 49409
(Name and address of manufacturer)
2. Manufactured for Amphibian Troop Area, Camp Lejeune, NC 28542
(Name and address of purchaser)
3. Location of Installation Building A-1, Courthouse Road, Camp Lejeune, NC 28542
Firetube Scotch
(Name and address)
4. Unit Identification Marine ID Nos. 830401 11P-11-6 7716 1986
(Complete boiler, superheater, water wall, economizer, etc.) (Mfrs. Serial No.) (CRN) (Drawing No.) (Nat'l Brd. No.) (Year Built)
5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section IV, 1983 (Year) and Addenda to Winter 1985 (Date)

Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: None

- (Name of part, item number, mfr's name and identifying stamp)
6. Boiler Shells or Drums: No. One Dia. 60" I.D. Length 108 1/2" Dia. _____ Length _____
7. Shell Plates SA-285-C 3/8"
(For each shell or drum state: material specification no. & grade, nominal thickness)
8. Longitudinal Joint(s) Welded Butt Joint Efficiency 85%
(Seamless, Welded) (As compared to seamless)
9. Girth Joint(s) None No. of Shell Courses One
(Seamless, Welded)
10. Tube Sheet SA-516-70 1/2" Tube Holes 2+1/32"
(Mat'l Spec., Grade, Thickness) (Dia.)
11. Boiler Tubes: No. 110 SA-178-A Straight
(Mat'l. Spec., Grade) (Straight or Bent)
Dia. 2" Length 108 1/2", 80 1/2" Gauge #13 B.W.G.
(If various, give max. & min.) (or thickness)
12. Heads SA-516-70 1/2" Flat
(Material Specification No.; Thickness—Flat, Dished, Ellipsoidal—Radius of Dish)
13. Furnace No. One Size 24" O.D. Length, each section _____ Total 86-3/4"
(O.D. or W x H)
Type Plain
(Plain, Corrugated, etc.)
- Seams: Type Seamless SA-106-B Thickness .375"
(Seamless, Welded) (Mat'l Spec. & Gr.)
14. Staybolts: No. None Size _____
(Diam., Mat'l. Spec. Grade Size Telltale, Net Area)
Pitch _____ Design Pressure _____ psi.
(Hor. and Vert.)

15. Stays or Braces

Location	Material Spec.	Type	No. & Size	Pitch	Total Net Area	Fig. HG-343 L/1	Dist. Tubes to Shell	Area to be Stayed	Design Pressure, psi.
(a) F. H. above tubes	N	O	N	E					
(b) R.H. above tubes									
(c) F.H. below tubes									
(d) R.H. below tubes									
(e) Through stays									

16. Other Parts: 1. Blowoff piping 2. Feedwater piping 3. _____
(Brief Description—i.e. Dome, Boiler Piping, etc.)
1. 1-1/2" threaded pipe, SA-53-B, Sch. 80
2. 1" threaded pipe, SA-53-B, Sch. 80
3. _____
17. Openings: (a) Steam One 8" X 150# S.O. (b) Safety Valve One 3" X 300# F.C.
(No., Size, and Type)
- (c) Blowoff Two 1 1/2" X 300# F.C. Bottom (d) Feed One 1" X 300# F.C. Right Side
(No., Size, Type, and Location) (No., Size, Type, and Location)
- (e) Manholes: No. One Size 11" X 15" Location Upper rear head
(Saddles, Legs, Lugs) (Bolted or Welded)
- (f) Handholes: No. Six Size 3 1/4" X 5" Location 2-Front, 1-Bottom, 1-Right, 1-Left,
18. Boiler Supports: No. Two Type Saddles Attachment Welded 1-Rear
(Saddles, Legs, Lugs) (Bolted or Welded)
19. Design Pressure 30 psi Based On (43.5)HG-340 Heating Surface 500 sq ft or kW
(Code Par. and/or Formula) (Total)
20. Shop Hydrostatic Test 60 psig.
(Complete Boiler)

FORM H-2 (BACK)

Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report: None

(Name of part, item number, mfg's name, and identifying stamp)

CERTIFICATE OF COMPLIANCE

We certify the statement in this data report to be correct.

Date 24 Sept. 1986 Signed Stone Johnston Corp. by Gordon Royce
(Manufacturer) (Authorized Representative)

Our Certificate of Authorization No. 819 to use the (H) H symbol expires
March 30, 1987

CERTIFICATE OF SHOP INSPECTION

Boiler made by Stone Johnston Corporation at Ferrysburg, MI

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Michigan and employed by H.S.B.I. & Ins. Co. of Hartford, CT

have inspected parts of this boiler referred to as data items 1-20 inclusive and have examined Manufacturer's Partial Data Reports for items None

and state that, to the best of my knowledge and belief, the Manufacturer has constructed this boiler in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the boiler described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 24 September 1986
Signed Michael Culak (Inspector) Commissions MB-7607 MI-414
(Nat'l Board, State, Province and No.)

CERTIFICATE OF COMPLIANCE

We certify that the field assembly of all parts of this boiler conforms with the requirements of SECTION IV of the ASME BOILER AND PRESSURE VESSEL CODE.

Date _____ Signed _____ (Assembler) By _____ (Representative)

Our Certificate of Authorization No. _____ to use the (H) _____ symbol expires
_____ 19 _____

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____ of _____

have compared the statements in this Manufacturer's Data Report with the described boiler and state that the parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief the Manufacturer and/or the assembler has constructed and assembled this boiler in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE. The described boiler was inspected and subjected to a hydrostatic test of _____ psi.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the boiler described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____
Signed _____ (Inspector) Commissions _____ (Nat'l Board, State, Province and No.)

