



GRAYSON ARMATURE WORKS
LARGE MOTOR DIVISION
 1910 JASMINE - PASADENA, TX 77503
 713-473-3231 FAX: 713-473-4201

SAN ANTONIO WATER SYSTEMS



GRAYSON SHOP JOB NUMBER 036108	ESTIMATED REPAIR COST
CUSTOMER PO# 201355	DATE RECEIVED 3/15/2013
EQUIPMENT ID	RFQ/WO

NAME PLATE INFORMATION

MANUFACTURER SIEMENS	HP/KW 3000	STYLE	TEMP. RISE C	PHASES 3	SF/PF 1.15
MODEL NUMBER 145	VOLTAGE 4000	RPM 3590	TYPE: RGWS	MOUNTING HORIZONTAL	
FRAME 8012	AMPS 370	SERIAL 1-5141-50198-1-3		ENCLOSURE	

Repair Type

OVERTIME STANDARD

INSPECT ONLY RECONDITION REWIND MECHANICAL REPAIRS

STATOR ONLY ROTOR ONLY OTHER A: _____

MACHINE TYPE

SYN SLIP RING SYN BRUSHLESS

WOUND ROTOR INDUCTION

Analysis of Cause of Failure:

The center balance weight in the middle of the rotor is missing. This is part of a Siemens design that improves the balance of the rotor. This was probably done in the factory. All shaft fits, bearings and seals are worn.

Electrical		Mechanical/Contamination/Misc.			Quality
<input type="checkbox"/> Stator	<input type="checkbox"/> Insulation Failure	<input checked="" type="checkbox"/> DE Bearing	<input type="checkbox"/> Contaminated	<input type="checkbox"/> Water Cooler	<input type="checkbox"/> Design Fault
<input type="checkbox"/> Rotor	<input type="checkbox"/> Shorted Winding	<input checked="" type="checkbox"/> ODE Bearing	<input type="checkbox"/> Moisture	<input type="checkbox"/> No Ventilation	<input type="checkbox"/> Materials
<input type="checkbox"/> Leads	<input type="checkbox"/> Grounded	<input type="checkbox"/> Over Lube	<input type="checkbox"/> Chemicals	<input type="checkbox"/> Misapplication	<input type="checkbox"/> Workmanship
<input type="checkbox"/> Voltage OL	<input type="checkbox"/> Surge	<input type="checkbox"/> Under Lube	<input type="checkbox"/> Oil/Dirty	<input type="checkbox"/> Misalignment	<input type="checkbox"/> Other
<input type="checkbox"/> Mech OL	<input type="checkbox"/> Dry Brittle	<input type="checkbox"/> Overload	<input type="checkbox"/> Foreign Matter	<input type="checkbox"/> Brush Rigging	
<input type="checkbox"/> Thermal OL	<input type="checkbox"/> Shorted Iron	<input type="checkbox"/> Bent Shaft	<input type="checkbox"/> Flooded	<input type="checkbox"/> Coupling	
<input type="checkbox"/> Single Phase	<input type="checkbox"/> Core Test	<input type="checkbox"/> Vibration	<input type="checkbox"/> Other	<input type="checkbox"/> Other-- _____	

OTHER:

Proposed Workscope

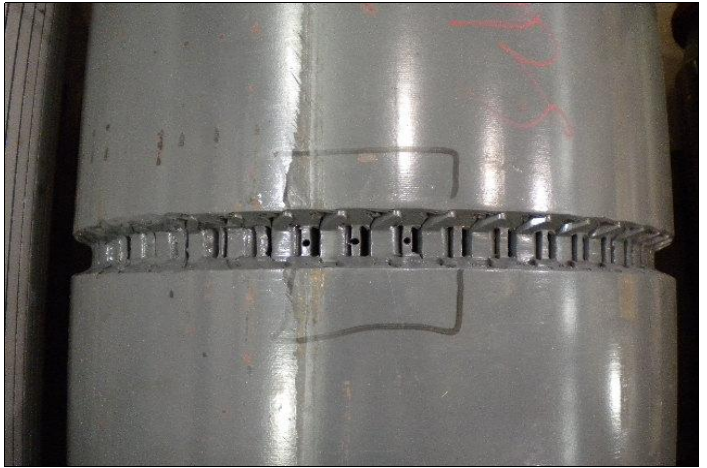
DISASSEMBLE, CLEAN & TEST
 CLEAN ALL PARTS
 SANDBLAST ALL PARTS
 CHECK MAIN FRAME IN MILL
 LATHE CHECK ROTOR
 MACHINE ROTOR CORE TRUE
 REBUILD COUPLING FIT

REBUILD INBOARD BEARING JOURNAL
 REBUILD OUTBOARD BEARING JOURNAL
 GRIND AND BURNISH PROBE AREAS
 DYNAMIC BALANCE ROTOR
 REBUILD INNER SEALS
 REBUILD BEARING HOUSINGS
 REBUILD BOTH BEARINGS
 ASSEMB. MOTOR/TEST RUN FULL V.
 CHECK VIBRATION, AMP. & TEMP.
 PAINT TO CUSTOMER SPECS.

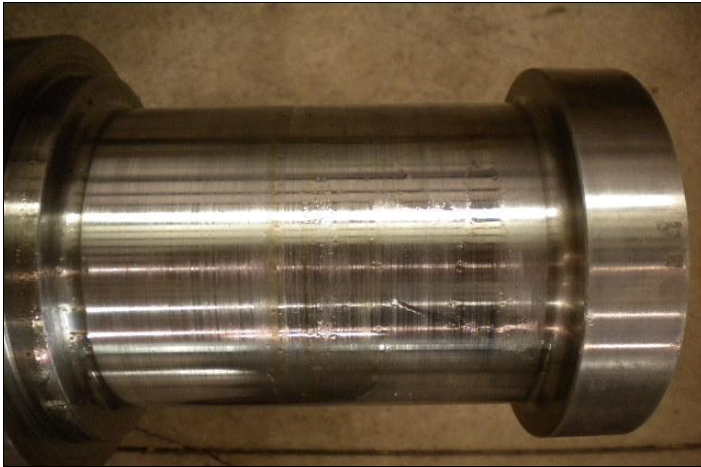
GAW NUMBER: 036108



Center balance weight from SAWS original pictures



Center balance weight is missing
This weight needs to be there



Outboard bearing journal is in rough condition



Inboard bearing journal is rough condition
Probe areas are scratched



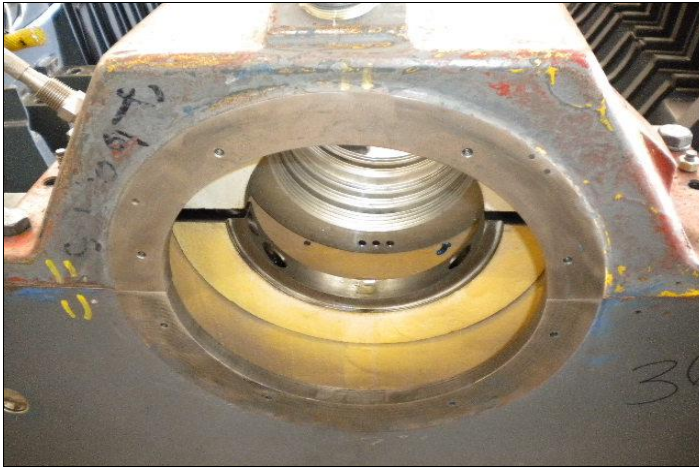
Coupling fit has visible damage



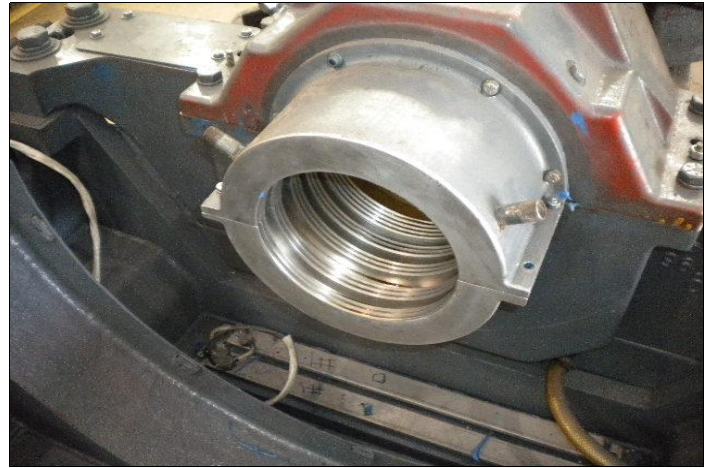
Bearings are oversized and have bad wear patterns

GAW NUMBER:

036108



Bearing housings are oversized



Seals are oversized



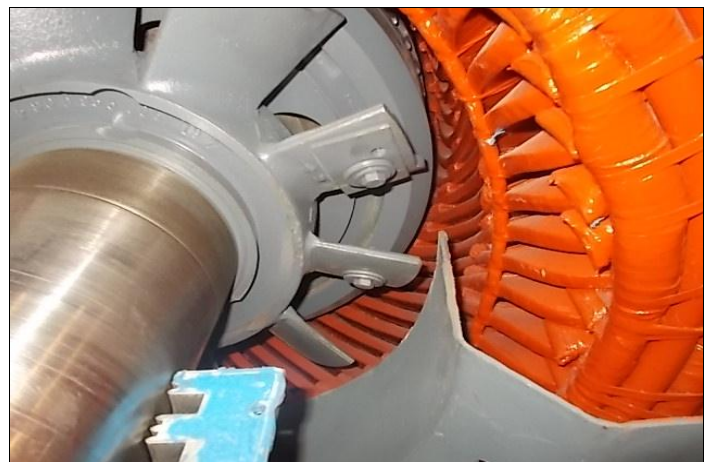
Bottom plate in frame is bent



Bars are raising up in rotor.
Minor core penetration



Excessive balance on internal fan blades



Excessive weight on internal fan blades