INVENTORY 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

Ward Transformer Co., Inc.
TRANSFORMER DEPT.

№ RC 2869

Received From:
Town: State
Received Via: Date: 6/24/91
Card Made: J. Shaffner P. O. No:
Sold To:

Original Cost:
Shop Cost:
Incoming Freight:
Date Billed:
Our R No:
Cust. Order No:

10816815

EQUIPMENT: STATION TYPE TRANSFORMER

Serial No. 12082

Make: ITE	K.V.A. 1500	Imp. 5-81	Phase: 3	Style No.
H. Volts: 22900 Δ	Type: STA	Form:	Cycles: 60	Cat. No.
L. Volts: 2400 Δ	Gals Oil: 610	Pol:	~~N. P. No.~~ 55/65	Spec. No.
No. Taps 4	Taps	Up ☑ Down ☑	YEAR BUILT:	

A- 24100
B- 23500
C- 22900 -100%
D- 22300
E- 21700

Pocket Pri Sec
(Stud) Pri (Sec)

(Top Pri.) Sec
Steel ☒ Cast ☐ Cast Top. Bot.
Oblong ☐ Straight ☒ Round ☐ Corregated ☐ Fins ☒

Ht. top of H. V.: 111"
Ht. No. H. V. Bush: 97"
Dia: Wide: 88"
Deep: 78"

Tank & Fittings: 4550
C & C Wt: 5750
Oil Wt: 4550
Total Wt. 8500

H.V. B.I. 150 KV.
L.V. B.I. 60 KV.

Oil Level Gauge ☒ Thermometer ☒
Tap Changer: External ☒ Internal ☐

LAST HERE 8-25-87

NEW USER:
REBUILT USER:
DEALER:

WELDED DOWN TOP.

REMARKS: CAME IN ON "C" POS.

L-G- 3,000
H-G- 4,000 } 1000 VOLT SCALE.
H-L- 3,000 } OIL DI-ELECT. 30 KV. AVERAGE.
NOT NEW, BUT LOOKS GOOD.

9.539 9.540 9.538 100% TAP.

* This unit picked-up when delivering 1500 KVA repaired under T.G. PO# D41 7181

TRANSFORMER TEST

Continuity [ ]	Lead Clearances [X]	Exciting Current ____ At ____ Volts	Core Loss ____ At ____ Volts
Oil [N] [R]	Oil Level [X]	500 Cycles [ ] At ____ L. Volts	High Pot. [ ] High To Grd. ____ K. V.
Grd Terminals [1] [2]	Surge Tested [ ]	Radio Interference OK [ ] Polprity [A] [B]	Low To Grd ____ K. V.
Oil Leaks [NO]	Anti Siphon Joints [ ]	Impeadence Calculated ____ At ____ Volts	High To Low ____ K.V.
Pri. Grd. Connected [Y] [N]	Sec. Grd. Connected [Y] [N]	Number Taps 4 What % 5 1/4	Up [5] Down [5]

SECONDARY BREAKER			Position	% Tap	Connect	Pot. Difference	T.T.R. Ratio	Calculated Ratio
Breaker No.			A		10.040	10.042	10.040	
Trip and Reset [ ]	Oil Temp	°C	B		9.789	9.790	9.789	
Factory Trip Allowable	To	Secs.	C	100%	9.539	9.548	9.539	
Factory Trip Current	At	°C	D		9.289	9.298	9.289	
Shop Trip Current	At	°C	E		9.039	9.040	9.039	
Shop Trip Time Right Side		Secs.		out	on "C" position 100% TAP.			
Shop Trip Time Left Side		Secs.						

INSULATION POWER FACTOR			OIL TEST		INCOMING [ ]		OUTGOING [ ]
High to Grd.	I.P.F.	M.F.	SHOT A		SHOT B		Color
High to Low	I.P.F.	M.F.	No. 1	K. V.	No. 1	K. V.	Nevt No.
Low to Grd.	I.P.F.	M.F.	No. 2	K. V.	No. 2	K. V.	I. F. T.
Megger High to Grd.	In	Out	No. 3	K. V.	No. 3	K. V.	Power Factor
Megger Low to Grd	In	Out	No. 4	K. V.	No. 4	K. V.	Oxidation % Time
Megger High to Low	In	Out	No. 5	K. V.	No. 5	K. V.	Oxidation % Time
			TOTAL	K. V.	TOTAL	K. V.	Average K. V. 30-30-30

Fuse No.	Good [ ]	Bad [ ]	GRD. Clamps	[ ]	OUT	Approved: YES
Hangers	IN	OUT	Pri. Bushing Good	[ ]	OUT	Date Tested: 7/4/91
Arrestors	IN	OUT	Sec. Bushing Good	[ ]	OUT	Tested
Paint		OUT	Sec. Breaker	IN	OUT	By: John J. Stafman

REMARKS: [redacted] SAME Oil

L-G- 3000 - 1000 VOLT SCALE.
H-G- 2.500 - 1000 VOLT SCALE
H-L- 4000 - 1000 VOLT SCALE.

OHMS.	30°C	OHMS.
H-1-H-2-	2.15	X-1-X-2- .0265
H-2-H-3-	2.15	X-2-X-3- .0260
H-1-H-3-	2.20	X-1-X-3- .0260

TRANSFORMER OIL TEST REPORT

EQUIP. NO. 106 PAGE 1

CUSTOMER	CUSTOMER NUMBER	CONTACT / PHONE
TEXAS GULF INC. P.O. BOX 48 AURORA NC 27806	856	(0000)000-0000

LOCATION: FR. WATER PUMP MILL

COMMENTS:

OUTDOOR	INDOOR	RIG	ROOF	VAULT	POLE	PLATFORM	PORTABLE REQ'D	HOSE LENGTH	ELECT. POWER AVAILABLE
X		3				X		500	

NAME PLATE DATA

MANUFACTURER	SERIAL NUMBER	KVA	PRIMARY VOLTS	SECONDARY VOLTS	PHASE	TRANS	REG.	TAP COMP.	OIL SW.	O.C.B.	TANK
ITE	12082	1500	22900	2400	3	X					

EQUIPMENT DATA

LIQUID TYPE	GALLONS	LIQUID LEVEL	IND TEMP °C	PEAK TEMP °C	PRESS LBS.	GAS SAMPLE FITTING	OIL FILLED BUSH.	FANS	WATER COOLED	WELDED LID	RADIA-TORS	CONS. TANK	TAP CHANG.	PAINT EXCEL.	FAIR	PAINT REQ.	TOP VALVE DIAM.	BOT. VALVE DIAM.	POP TOP
OIL	610	N	35	45		X					X		X	X					

ASTM NO.		D1500	D1524	D974	D877	D971	D1298	D924	D1533-77											REPAIR / TEST HISTORY COMMENTS	REC.
DATE	JOB NUMBER	COLOR	SLUDGE (VISUAL)	NEUT NO. MG KOH/g	DIEL. KV.	IFT DYNES/CM	SPECIFIC GRAVITY	POWER FACTOR (OPTIONAL)	WATER PPM (OPTIONAL)	DEHYD.	RECLAIM	MARGIN	PCBX	RESAMPLE 1 YEAR	E/TEST	REPAIR	SAMPLED BY	TESTED BY			
11-88	302018	1.0	CLR	.020	35	34.6	.878	.09	17					X		X			LEAK AT TAP CHANGER AND TEMP G		

N-NORMAL
H HIGH
L LOW

N/A NOT AVAILABLE

O OIL

A ASKAREL

RT R - TEMP

SL SILICONE

NOTE: ASKAREL - COLOR ASTM D 2129

PCB ANALYSIS

DATE	11-88		
CERT NO.	15398		
P.P.M.	<2		

NSK
1700 GATEWAY BLVD. S.E., CANTON, OHIO 707
Phone 216-452-0837

TRANSFORMER OIL TEST REPORT

EQUIP. NO. 106 PAGE

CUSTOMER	CUSTOMER NUMBER	CONTACT / PHONE
TEXAS GULF INC P.O. BOX 48 AURORA NC 27806	856	0000000-0000

LOCATION: FR. WATER PUMP MILL

COMMENTS:

OUTDOOR	INDOOR	RIG	ROOF	VAULT	POLE	PLATFORM	PORTABLE REQ'D	HOSE LENGTH	ELECT. POWER AVA
X		3				X		500	

NAME PLATE DATA

MANUFACTURER	SERIAL NUMBER	KVA	PRIMARY VOLTS	SECONDARY VOLTS	PHASE	TRANS	REG.	TAP COMP.	OIL SW.	O.C.B.
ITE	12082	1500	22900	2400	3	X				

EQUIPMENT DATA

LIQUID TYPE	GALLONS	LIQUID LEVEL	IND TEMP °C	PEAK TEMP °C	PRESS. LBS.	GAUGE	SAMPLE VALVE	OIL FILLING	OIL FILTER PUMP	FANS	WATER COOLED	WELDED LID	RADIA-TORS	CONS. TANK	TAP CHANGE	PAINT EXCEL.	FAIR	PAINT REQ'D	TOP VALVE DIAM.	BOT. VALVE DIAM.
OIL	610	N	35	45		X							X		X	X				

DATE	JOB NUMBER	ASTM NO. D1500 COLOR	D1524 SLUDGE (VISUAL)	D974 NEUT NO. MG KOH/G	D877 DIEL. KV.	D971 IFT DYNES/CM	D1298 SPECIFIC GRAVITY	D924 POWER FACTOR (OPTIONAL)	D1533-77 WATER PPM (OPTIONAL)	DEHYD.	RECLAIM	MARGIN	PCBX	RESAMPLE	RETEST	REPAIR	SAMPLED BY	TESTED BY	REPAIR / TEST HISTORY COMMENTS
11-88	302018	1.0	CLR	.020	35	34.6	.878	.09	217					X	X	X			LEAK AT THE CHANGER AND TEM-

N/A NOT AVAILABLE

NOTE: ASTM NO. COLOR ASTM D1524

PCB ANALYSIS

DATE	11-88		
CERT NO.	15398		

1700 GATEWAY BLVD. S.E., CANTON, OHIO 707

FAX NO. 18193224118308

G. MAINTENANCE

UNITED POWER SERVICES INCORPORATED

OIL TEST REPORT

CUSTOMER: Texas Gulf CITY: Aurora STATE: NC UPSI NO: 30

NAME PLATE DATA

Make	LTE	High Voltage	22,900	No. Radiators	5/9	Ground	X
Serial No.	12085	Low Voltage	2400	No. Fans	None	Outside	X
Company Equip. #	C-210	Impedance	5.81	Physical Dimensions	8'x6'x4'	Inside	
Location	Water Plant	KVA	1,500	Gas Headspace	Yes	Platform	
Gallons	610	Phase/Cycle	3/60	Water Cooled	No	Pole	
Fluid	Oil	Date Mfg.		Bushings Top/Side/Oil	Side	Roof	
Valves	1" & 2"	Welded Lid	Yes	Conservator Tank	No	Access	60'
TRANS.	OCB	RECT.		FURN.		PRECIP.		TAPC.		SW.		REG.	

EQUIPMENT INSPECTION DATA

Date	Outside Temp	Peak Temp	Level	PSI VAC	Paint	Bushing	Environment	LEAKS	RECOMMENDED SERVICE
9/90	36	39	N		Fair	Encl.	Clean	BV Pack Gland	Repair

LIQUID TEST DATA

Date	D877 Dielectric	D974 Neut. No.	D1524 Color	D1524 Visual	D1298 S.G.	D924 PF	D1533 H20/PPM	D3612 DGA	ICP Metals	PCB PPM	Classification	Required Service
9/90	37	0.015	0	Clear	0.885	0.1045 0.22	22	Yes	Yes		Good	Retest 1 yr.

PCB PPM CONTENT

Date	PCB Certificate Number	1242	1254	1260	Other	Total

UNITED POWER SERVICES

Dissolved Gas Analysis

CUSTOMER: Texas Gulf

CITY: Aurora STATE: NC

SUBJECT: Mill Creek Power Plant

UPS NO.: 30

UNITED POWER SERVICES INCORPORATED
Box 100922 • Nashville, TN 37210-0922 • 615/255-3700
Fax 615/256-0915

COMPANY Texas Gulf
LOCATION Aurora, NC
SUB NAME OR NO. Mill Fresh Water Pond
LABORATORY NO. 30

ICP METAL OIL ANALYSIS

TRANF. ___ OCB ___ REG. ___ FURN. ___ PRINCP. ___ SW ___ OTHER ___

MAKE [illegible]

SERIAL [illegible]

MFG. DATE [illegible]

VOLTAGE RATING 22,900

KVA RATING 1,500

GALLONS Oil, 610

Results Expressed In Parts Per Million (PPM)

DATE	COPPER	IRON	LEAD	SILVER	TIN	ZINC
9/90	0.19	0	0	0	0	0

REMARKS

90 - [illegible] normal range for oils in service and do not indicate [illegible] unit. Establishes baseline. Detection limit 0.050ppm.

SHOP

WARD TRANSFORMER CO., INC.

P.O. BOX 30009 • MT. HERMAN CHURCH ROAD
RALEIGH, N.C. 27622

PHONE: 919-787-3553
800-334-9600

FAX: 919-787-1683

ORDER SHEET

ORDER NO.	DATE SOLD	SALESMAN
0003136714	06/24/91	33
CUSTOMER NO.	**TERMS**	
007782	.0 % Disc - 0 Days	

SOLD TO
TEXAS GULF INC
PO BOX 48
AURORA, NORTH CAROLINA 27806

CUSTOMER P.O. NO. D41-11444
ATTENTION:
TELEPHONE NO.: 919-322-4111

SHIP TO
TEXAS GULF INC
HWY 306 N
AURORA, NORTH CAROLINA 27806

REFERENCE NO.:
ATTENTION:
TELEPHONE NO.: 919-322-4111

DATE REQUIRED: 08/08/91
F.O.B. PT. & FREIGHT:
SHIP VIA: WARD/PP&A

ITEM NUMBER	QTY. ORD.	QTY. SHIP	DESCRIPTION	UNIT
83-2869		1	0 1500KVA 3PH (3139714) 60HZ, 55/65 DEGREE C RISE, 5.81% IMP., HV: 22900 DELTA WITH TAPS A AND E LV: 2400 DELTA, SERIAL # 12082 SUBSTATION TYPE, REMOVE HV BUSHINGS FROM TOP AND PUT ON END WALL ARE SURROUND BY AIR TERMINAL BOX, USE THE SAME OIL ON, WASH COILS, BAKE AND VACUUM DRY, REPLACE ALL GASKETS AND RAISE 1"LIP AROUND MANHOLE COVER AS NECESSARY, CHANGE GAUGES IF NECESSARY, TEST AND PAINT Do NOT SAND BLAST Per W.F. KEEP UP WITH TIME AND MATERIAL ****MARK BILL OF LADING WITH T.G. PO# D41-11444 AND T.G SHIPPING RECORD 12828 ***DON: FREIGHT 1/2 ABSORBED BY DELIVERING 1500 ON BIG TRUCK, T.G. PO# D41-7181 OUTGOING.... GEORGE LILLIS 919-322-4111 LET WADE KNOW WHEN READY....	

Note: Built 1- Air T.C - ½ Length - Customer Approved - Change - To Full Length With ½ Door - O.K. Per Wade
Make Provision For Arrestors Removable Bottom

W/O #08/08/01

INSTRUCTIONS: