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

Ward Transformer Co., Inc.

TRANSFORMER DEPT.

№ 2884

PC

Received From: TEXAS Gulf

Town: AURORA State Ill.

Received Via: Date: 7/29/91

Card Made: GENOR P. O. No:

Sold To:

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

EQUIPMENT:

Serial No. G-851692

Make: G.E.	K.V. 10,000	Imp. 5.53	Phase: 3	Style No.
H. Volts: 22900Δ	Type:	Form:	Cycles: 60	Cat. No.
L. Volts: 6900Y/3985	Gals Oil: 1840	Pol:	N. P. No: 55	Spec. No.
No. Taps 4 Taps	Up 2 Down 2	YEAR BUILT:		

Pocket Pri Sec | Top Pri Sec | Steel ☒ | Cast ☐ | Cast Top. Bot.

Stud Pri Sec | Oblong ☐ | Straight ☒ | Round ☐ | Corregated ☐ | Fins ☒

L-G 1200
H-G 3000 } 1000 Volts
H-L 12000

Ht. top of H. V.:
Ht. No. H. V. Bush:
Dia: Wide:
Deep:

Tank & Fittings: 12800
C & C Wt: 20200
Oil Wt: 13700
Total Wt: 46700

5.593 5.595 5.593

Oil Level Gauge ☒ Thermometer ☒

Tap Changer: External ☒ Internal ☐

OIL DIELECT 25 AVG.

NEW USER:

REBUILT USER:

Reflected Down TOP

DEALER:

REMARKS: VOLTAGE
24100
23500
22900-100%
22300
21700

10816816

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] [X]	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 %	Up [7] Down [0]

SECONDARY BREAKER			Position	% Tap	Connect	Pot. Difference	T.T.R. Ratio	Calculated Ratio
Breaker No.			1		6.046	6.048	6.046	
Trip and Reset [ ]	Oil Temp	°C	2		5.890	5.892	5.890	
Factory Trip Allowable	To	Secs.	3	100%	5.748	5.749	5.748	5.746
Factory Trip Current	At	°C	4		5.592	5.593	5.592	
Shop Trip Current	At	°C	5		5.436	5.438	5.436	
Shop Trip Time Right Side		Secs.	CAME IN ON 4TH POS. LEFT ON 4TH.					
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: 8/6/91
Arrestors	IN	OUT	Sec. Bushing Good	[ ]	OUT	Tested
Paint		OUT	Sec. Breaker	IN	OUT	By: [signature]

REMARKS: Vacuum Filled, Used oil. 37 Days

L-G- 5000 ELECT MEGGER 1-min.
H-G-5000+
H-L- 6500

OHMS	30	OHMS
H-1-H-2- .250		X-1-X-2- .0180
H-2-H-3- .250		X-2-X-3- .0180
H-1-H-3- .250		X-1-X-3- .0180

19199467276

RETURN WHITE AND BLUE COPIES TO PURCHASING

JUL-27-91 SAT 20:55

Texasgulf Purchase Requisition

REQ. NO. FE2-2128

VENDOR: WARD TRANSFORMER	DATE INITIATED (TODAY'S DATE): 7-27-91		PURCHASE ORDER NO.: ERI-16218
STREET:	DATE REQUIRED: 8-27-91	PRIORITY CODE:	F.O.B.: RALEIGH / TERMS:
CITY: RALEIGH, N.C.	ESTIMATED COST:	DROP NO.: 483	SHIP VIA: WARD / SHIPMENT PROMIS

QUANTITY	MFG. PART NUMBER	DESCRIPTION	VENDOR'S QUOTATIONS 1ST	2ND	3RD	EXTENDED PURCHASE COST
		TEST AND REPAIR				
1		BE TRANSFORMER 10 MVA				
		22,900 - 6900 Y 3 PHASE				
		SN 6-85,692				
		Total Wt. 46,700 lbs				
		Oil 1840 Gallons				
		Tg Tog 211				
		13' 3/4" High				
		10' 10" Wide				
		9' 8" Deep				

REFERENCE: PLEASE CONGRESSION WITH HOPE PEGGY 919-846-7120

DELIVERY:

F.O.B.:

W. O. NUMBER AND ACCOUNT CODE: 228565

WAREHOUSE STOCK VERIFIED:

INTENDED USE OF MATERIAL: B SUBSTATION

REQUISITIONER: C.M. CARTWRIGHT

APPROVED BY: BB 7/87

TOTAL

"Safety Awareness is Everyone's Responsibility"

009-00-100-040

EQUIPMENT SPECIFICATIONS

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SEQ                          DETAIL INFORMATION
062     RELAY, PROTECTIVE VOLTAGE NEUT. 100VAC 59N
064     RELAY, PROTECTIVE GROUND CURRENT .5-4AMP TIME 51G
ENTER OPTION CODE ( 5  )
 NEXT PAGE - DEPRESS ENTER    3 = LIST EQNO              5 = PRINT COPY
 2 = RETURN PAGE 1            4 = SELECTION TABLE        6 = CANCEL REQUEST
                                                         7 = SPARE PARTS
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TEXAS GULF INC.
P.O. BOX 48
AURORA NC 27806

CUSTOMER NUMBER	CONTACT / PHONE
855	(0000)000-0000

LOCATION: B-SUB

COMMENTS:

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

NAME PLATE DATA

MANUFACTURER	SERIAL NUMBER	KVA	PRIMARY VOLTS	SECONDARY VOLTS	PHASE	TRANS	REG.	TAP COMP.	OIL SW.	O.C.B.	TA
G.E.	G851692	10000	22900	6900	3	X					

EQUIPMENT DATA

LIQUID TYPE	GALLONS	LIQUID LEVEL	IND TEMP °C	PEAK TEMP °C	PRESS LBS.	GAS SAMPLE VALVE	DRAIN VALVE	FILLED BUSH	FANS	WATER COOLED	WELDED LID	RADIATORS	CONS. TANK	TAP CHANG.	PAINT EXCEL.	FAIR	PAINT REQ.	TOP VALVE DIAM.	BOT. VALVE DIAM.	PO TO
OIL	1840	HIGH	40	60	0000	X				X	X		X		X				002	

ASTM NO.		D1500	D1524	D974	D877	D971	D1298	D924	D1533-77											REPAIR / TEST HISTORY COMMENTS
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		
10-88	302018	1.5	CLR	.015	44	32.5	.872	.09	38			X					JR	MLH		

NORMAL
HIGH
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.	15455		
P.P.M.	<2		

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

JUL-31-91 WED 14:08 T G MAINTENANCE FAX NO. 19193224111 8308 P. 02

TEXAS GULF
08/02.09

1767 GALS. NEW OIL N-61

1 - 3/4" x 12' STEEL PLATE
1 - 3/4 x 2' x 4' STEEL PLATE
1 - 400T PRESSURE RELIEF DEVICE

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
000313973	07/31/91	33

CUSTOMER NO.	TERMS
007782	.0 % Disc - 0 Days Net

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

CUSTOMER P.O. NO. ER1-16218
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: 08/02/91 F.O.B. PT. & FREIGHT: Bill #53 PP+A SHIP VIA: CUST. WILL ADVIS

ITEM NUMBER	QTY. ORD.	QTY. SHIP	DESCRIPTION	UNIT	[redacted]
88-2884	1	0	UNTANK,INSPECT & DETERMINE CAUSE OF FAILURE AND COST TO REPAIR 10,000 KVA, 3 PH, 60HZ, 55 DEGREE C RISE 5.53% IMP., HIGH VOLT: 22900 DELTA WITH 2-2.5% TAPS, LOW VOLT: 6900Y/3985 TOTAL WT: 46700 LBS., 1840 GALLONS OIL SERIAL # G-851692 REMOVE OIL, REPLACE OIL, REGASKET ALL BUSHINGS, VACUUM DEHYRDRATE, MOVE THE NEUTRAL LEAD UP FROM THE BOTTOM OF THE TANK (THIS IS THE CAUSE OF POOR MEGGER READINGS) REIASE 1" LIP ON MANHOLES (2) (WATER GOT INTO TANK SOMEHOW IN FIELD) VACUUM, CLEAN, TEST, PAINT, COST OF FREIGHT:::1 ROUND TRIP INCOMING VIA LOW BOY. OUTGOING FREIGHT TO BE DETERMINED WHEN READY TO SHIP.. KEEP UP WITH TIME AND MATERIAL BILL FOSTER 919-322-8218	EA	[redacted]

W/O # 08/02.09

TIONS:

EQUIPMENT SPECIFICATIONS

SEQ	EQ LOC TAG #	YR PUR ORG P/O	DESCRIPT	VENDOR	SERIAL #
060	B-SUB		RELAY PROT		12IAC53B811A
062	B-SUB		RELAY PROT		12IAV51D2A
064	B-SUB		RELAY PROT		12IAC53A801A

SEQ DETAIL INFORMATION

010 SUBSTATION B, 10000KVA
020 TRANSFORMER, 10000 KVA, 55 DEG. C 11200 KVA AT 65 DEG. C DELTA-Y
022 PRI. 22.9 KV, SEC. 6900/3985V, PRI. AMPS 268-298, SEC. AMPS 973
024 PRI.BIL. 150 KV, SEC. BIL. 110 KV, 5 JAPS, 2.5% TAP,3PH,5.53%IMP
026 OIL CAP 1840 GAL., TOTAL WEIGHT 46700 LBS., WINDINGS ALUMIN.
028 BUSHINGS PRI. TOP SEC. BUSHING SIDE
030 SWITCH HIGH VOLTAGE, AIR 600AMPS 25KV 3PH GANGED
040 FUSES, 600AMPS 23KV 300E 133500R4 HIGH VOLTAGE
050 BREAKER, MOTOR VOLTAGE AIRBLAST 1200AMPS 8.25 VOLTS
052 INTERP.33KA SHORT AMP CIRCUIT 66KA CLOSE & LATCH CAP. AMPS
054 IMP BIL 95KV CLOSE 230VAC TRIP 250VDC G.E. MAGNABLAST
060 RELAY, PROTECTIVE PHASE 50/50 TIME 1.5-12A INST.10-80A

ENTER OPTION CODE (5)

NEXT PAGE - DEPRESS ENTER
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