



SAN JOAQUIN REFINING CO., INC.

3129 Standard St, PO Box 5576, Bakersfield, CA 93388, Tel 661 327 4257, Fax 661 327 3236, www.sjr.com

CERTIFICATE OF ANALYSIS

Date: _____

Product Name: **HYTRANS 61**
 Application: Transformer Oil, Inhibited
 Product Type: Hydrotreated Light Naphthenic
 Distillate + Oxidation Inhibitor
 CAS No's: 64742-53-6, 128-37-0
 SJR Product Code: 2791
 Tank No.: _____ Lot No.: _____

Customer: _____
 Cust. Product Code: _____
 Destination: _____
 Cust. P.O. No.: _____
 Carrier: _____
 R/C (T/T) No.: _____
 Shipment Date: _____

Property	ASTM Method	ASTM D3487-00 Type II Limits	Typical HYTRANS 61	Test Results
Physical				
Aniline Point, F/C	D611	145-183/63-84	167/75	_____
Color	D1500	0.5 max	L0.5	_____
Flash Point, F/C	D92	293/145 min	300/149	_____
Interfacial Tension @ 25C, dynes/cm	D971	40 min	49	<u>52*</u>
Pour Point, F/C	D97	-40/-40 max	-76/-60	<u>-78/-61*</u>
Specific Gravity @ 60F/15C	D1298	0.91 max	0.8871	_____
Viscosity, SUS (cSt) @ 210F (100C)	D445	36 (3) max	34 (2.31)	_____
		@ 100F (40C)	66 (12) max	60.2 (9.63)
		@ 32F (0C)	350 (76) max	(62.0)
Visual Examination	D1524	B & C	B & C	_____
Chemical				
Oxidation Inhibitor** w%	D2668	0.3 max	0.28	_____
Oxidation Stability	D2440			
72 hours, w% Sludge		0.1 max	0.01	_____
Neut. No., mg KOH/g		0.3 max	0.02	_____
164 hours, w% Sludge		0.2 max	0.01	_____
Neut. No, mg KOH/g		0.4 max	0.02	_____
Rotating Bomb, minutes	D2112	195 min	280	_____
Corrosive Sulfur	D1275	Non-Corrosive	Non-Corrosive	_____
Water, ppm	D1533	35 max	<30	_____
Neut. No., mg KOH/g	D974	0.03 max	<0.03	<u><0.01*</u>
PCB Content, ppm	D4059	ND	ND	<u>ND*</u>
Electrical				
Dielectric Breakdown Voltage @ 60 Hz				
Disc Electrodes, kV	D877	30 min	45	_____
VDE Electrodes, kV, 0.040 in. gap, kV	D1816	20 min	33	<u>32*</u>
DBV, Impulse, 25C, 25.4 mm gap, kV	D3300	145 min	200	_____
Gassing Tendency, uL/min	D2300	+30 max	+22	_____
Power Factor @ 60 Hz, % @ 25C	D924	0.05 max	0.003	<u>0.005*</u>
		@ 100C	0.30 max	0.074

*As reported in 2004 Doble Survey, dated Jan 2005.

**Oxidation Inhibitor is 2,6-di-t-butyl-p-cresol.

San Joaquin Refining Co. Inc. hereby certifies that the above tests were performed in accordance with applicable ASTM test methods.

APPROVED BY: _____

Quality Control Department
SAN JOAQUIN REFINING CO., INC.