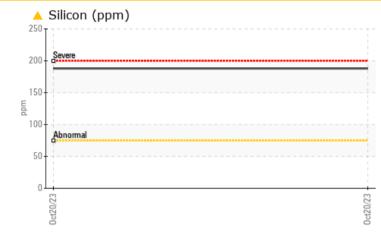


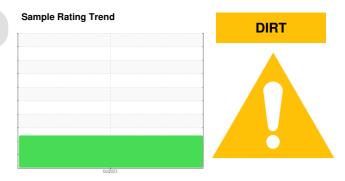
PROBLEM SUMMARY

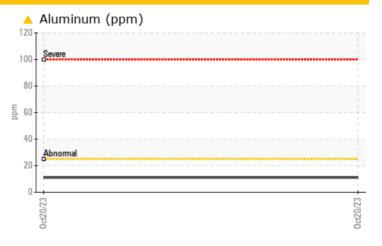
KENWORTH 3090

Component Front Differential Fluid GEAR OIL SAE 75W90 (--- QTS)

COMPONENT CONDITION SUMMARY







RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

PROBLEMATIC	; IEST R	ESULIS			
Sample Status				ABNORMAL	
Aluminum	ppm	ASTM D5185m	>25	🔺 11	
Silicon	ppm	ASTM D5185m	>75	188	

Customer Id: LTILYN Sample No.: WCMFB85541 Lab Number: 05996024 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 <u>don.b505@comcast.net</u>

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED AC	CTIONS			
Action	Status	Date	Done By	Description
Check Dirt Access			?	We advise that you check all areas where dirt can enter the system.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend

DIRT

KENWORTH 3090

Front Differential Fluid GEAR OIL SAE 75W90 (--- QTS)

DIAGNOSIS

Recommendation

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

🔺 Wear

All component wear rates are normal.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The condition of the oil is acceptable for the time in service.

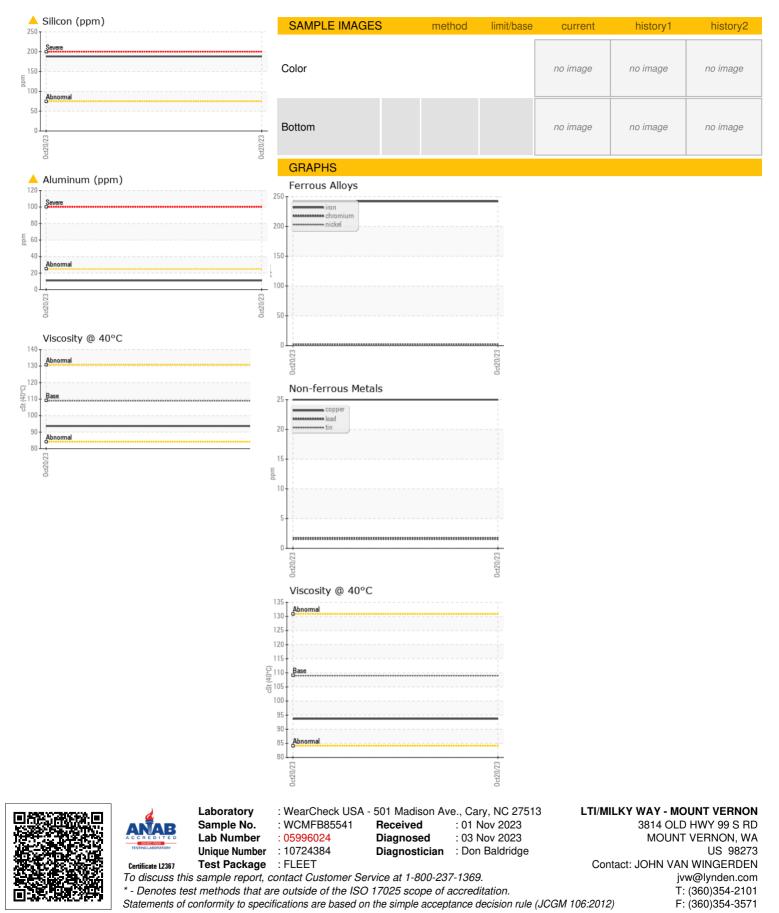
Sample Number Sample Date Machine Age Mi Oil Age Mi Oil Age Mi Oil Changed Sample Status P WEAR METALS P Nickel PP Chromium PP Chromium PP Nickel PP Titanium PP Silver PP Aluminum PP Lead PP Copper PP Tin PP Cadmium PP Cadmium PP ADDITIVES P Boron PP Barium PP Manganese PP Manganese PP Magnesium PP Calcium PP Calcium PP Sulfur PP Sulfur PP Sulfur PP	Is () Is	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	Iimit/base >500 >10 >10 >10 >10 >10 >10 >10 >10 >10 >25 >25 >100 >10 >10 25 >25 >100 >20 10 200 12	WCMFB85541 20 Oct 2023 0 0 N/A ABNORMAL 242 2 2 3 3 3 4 11 2 2 3 3 3 4 11 2 2 5 2 3 3 3 4 1 2 3 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3	 <th> </th>	
Machine AgemlsDil AgemlsDil ChangedmlsDil ChangedmlsSample StatusmlsWEAR METALSppItaniumppSilverppNuminumppLeadppCopperppAdmiumppCadmiumppBariumppAlagnesiumppContraMinantsppContraMinantsppContraMinantsppContraMinantsppContraMinantsppContraMinantsppContraMinantsppContraMinantsppSiliconppSiliconppSiliconpp	Is (Is (Is (Is (Is (Is (Is (Is (Is)	Client Info Client Info Client Info ASTM D5185m ASTM D5185m	>500 >10 >10 >25 >25 >100 >10 >10 limit/base 400 200	0 0///////////////////////////////////	 history1 	 history2 -
Dil Age ml: Dil Changed ml: Dil Changed sample Status WEAR METALS pp Vormium pp Lickel pp Numinum pp Dil Changed pp Silver pp Copper pp Anadium pp Cadmium pp Anadium pp Cadmium pp Anganese pp Magnesium pp ContraMINANTS Silicon	Is () om /)	Client Info Client Info Client Info ASTM D5185m ASTM D5185m	>500 >10 >10 >25 >25 >100 >10 >10 limit/base 400 200	0 N/A ABNORMAL 242 2 4 2 4 2 2 3 4 11 2 2 3 4 11 2 2 3 4 11 2 3 4 11 2 3 4 11 2 3 4 11 2 3 4 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 3 11 2 11 2 11 2 11 11 2 11 11	 history1 -	 history2
Dil ChangedSample StatusIWEAR METALSPpVonppChromiumppJickelppJickelppSilverppNuminumppLeadppCopperppCadmiumppCadmiumppAnadiumppCadmiumppAnadiumppCadmiumppAnaganeseppCalciumppContaMINANTSppSulfurppSiliconpp	, mo m / m / m / m / m / m / m / m / m / m /	Client Info method ASTM D5185m ASTM D5185m	>500 >10 >10 >25 >25 >100 >10 >10 limit/base 400 200	N/A ABNORMAL 242 2 2 3 3 3 4 11 2 2 5 2 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	 history1 -	 history2 -
Sample StatusWEAR METALSronppChromiumppChromiumppJickelppSilverppSilverppNuminumppLeadppCopperppTinppAnadiumppCadmiumppAnadiumppAddmiumppAnadiumppAdolybdenumppMaganeseppCalciumppContaMINANTSSiliconSiliconpp	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m	>500 >10 >10 >25 >25 >100 >10 >10 limit/base 400 200	ABNORMAL current 242 2 <1 2 0 11 2 25 2 0 <1 0 <1 current 194 <1	history1	history2
WEAR METALSronppChromiumppVickelppFitaniumppSilverppAluminumppLeadppCopperppCopperppAnadiumppCadmiumppCadmiumppADDITIVESppBoronppMalganeseppMagnesiumppCalciumppContraMINANTSppSulfurppCONTAMINANTSppSiliconpp	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m	>500 >10 >10 >25 >25 >100 >10 >10 limit/base 400 200	current 242 2 <1	history1	history2
ron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Manganese pp Manganese pp Calcium pp Calcium pp Calcium pp Calcium pp Calcium pp Sulfur pp CONTAMINANTS	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m	>500 >10 >10 >25 >25 >100 >10 >10 limit/base 400 200	242 2 <1 2 0 11 2 25 2 0 <1 current 194 <1	 history1	 history2
Chromium pp Vickel pp Fitanium pp Silver pp Aluminum pp Lead pp Copper pp Fin pp Vanadium pp Addium pp ADDITIVES Boron pp Barium pp Manganese pp Magnesium pp Calcium pp Calcium pp Calcium pp Contaminant pp Sulfur pp CONTAMINANTS Silicon pp	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m	>10 >10 >25 >25 >100 >10 >10 Iimit/base 400 200	2 <1 2 0 ▲ 11 2 25 2 0 <1 Current 194 <1	 history1	 history2
ChromiumppNickelppNickelppSilverppSilverppAluminumppLeadppCopperppCopperppCadmiumppCadmiumppADDITIVESppBoronppBariumppManganeseppMagnesiumppCalciumppSulfurppCONTAMINANTSSiliconSiliconpp	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m	>10 >25 >25 >100 >10 limit/base 400 200	<1 2 0 11 2 2 5 2 0 <1	 history1	 history2
NickelppFitaniumppSilverppAluminumppLeadppCopperppCopperppCadmiumppCadmiumppADDITIVESBoronppBariumppMalganeseppCalciumppCalciumppContakingppContakingppCONTAMINANTSSiliconSiliconpp	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m	>10 >25 >25 >100 >10 limit/base 400 200	2 0 11 2 25 2 2 0 <1 194 <1	 history1	 history2
Fitanium pp Fitanium pp Silver pp Aluminum pp Lead pp Copper pp Copper pp Cadmium pp Cadmium pp ADDITIVES Boron Barium pp Manganese pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon	m final second s	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >25 >100 >10 limit/base 400 200	0 ▲ 11 2 25 2 0 <1 194 <1	 history1	 history2
Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Calcium pp Calcium pp Sulfur pp CONTAMINANTS Silicon pp	m m m m m m m m m m m m m m m m m m m	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >100 >10 limit/base 400 200	0 ▲ 11 2 25 2 0 <1 194 <1	 history1	 history2
Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Maganesiem pp Calcium pp	m for the second	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >100 >10 limit/base 400 200	11 2 25 2 0 <1 current 194 <1	 history1	 history2
Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om / om / om / om / om / om / om / om /	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >100 >10 limit/base 400 200	2 25 2 0 <1 <u>current</u> 194 <1	 history1	 history2
Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Sulfur pp CONTAMINANTS Silicon pp	pm / pm / pm / pm / pom / pom / pom /	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>100 >10 limit/base 400 200	25 2 0 <1 <u>current</u> 194 <1	 history1	 history2
Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om / om / om / om / om /	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	>10 limit/base 400 200	2 0 <1 <u>current</u> 194 <1	 history1	 history2
Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om / om / om / om / om /	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 400 200	0 <1 current 194 <1	 history1	 history2
Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Magnese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om / om / om / om /	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	400 200	<1 current 194 <1	 history1 	 history2
ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om / om / om /	method ASTM D5185m ASTM D5185m ASTM D5185m	400 200	current 194 <1	history1	history2
Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om /	ASTM D5185m ASTM D5185m ASTM D5185m	400 200	194 <1		
Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om /	ASTM D5185m ASTM D5185m	200	<1		
MolybdenumppManganeseppMagnesiumppCalciumppPhosphorusppZincppSulfurppCONTAMINANTSSilicon	om /	ASTM D5185m				
ManganeseppMagnesiumppCalciumppPhosphorusppZincppSulfurppCONTAMINANTSSiliconpp			12			
MagnesiumppCalciumppPhosphorusppZincppSulfurppCONTAMINANTSSiliconpp	om /	ACTM DE10Em		<1		
Calcium pp Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp				4		
Phosphorus pp Zinc pp Sulfur pp CONTAMINANTS Silicon pp		ASTM D5185m	12	8		
Zinc pp Sulfur pp CONTAMINANTS Silicon pp	om /	ASTM D5185m	150	64		
Sulfur pp CONTAMINANTS Silicon pp		ASTM D5185m	1650	1410		
CONTAMINANTS Silicon pp	om /	ASTM D5185m	125	20		
Silicon pp	om /	ASTM D5185m	22500	24898		
		method	limit/base	current	history1	history2
Sodium pp	om /	ASTM D5185m	>75	188		
pp.	om /	ASTM D5185m		<1		
Potassium pp	om /	ASTM D5185m	>20	2		
VISUAL		method	limit/base	current	history1	history2
White Metal sca	alar '	*Visual	NONE	NONE		
Yellow Metal sca	alar '	*Visual	NONE	NONE		
		*Visual	NONE	NONE		
		*Visual	NONE	LIGHT		
		*Visual	NONE	NONE		
		*Visual	NONE	NONE		
		*Visual	NORML	NORML		
		*Visual	NORML	NORML		
		*Visual	>.2	NEG		
		*Visual	- 16	NEG		
FLUID PROPERTIES		method	limit/base	current	history1	history2
/isc @ 40°C cS		methou	init base	Guilent	matory	nistory2

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Contact/Location: JOHN VAN WINGERDEN - LTILYN



OIL ANALYSIS REPORT



Contact/Location: JOHN VAN WINGERDEN - LTILYN