

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id

KENWORTH 427204-SW4830

Diesel Engine Fluid MOBIL DELVAC ELITE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info 04 Jun 2024 25 Mar 2024 06 Feb 2024 Sample Date I Client Info 04 Jun 2024 25 Mar 2024 06 Feb 2024 Machine Age hrs Client Info 504 0 0 Oil Age Client Info 504 0 0 0 Oil Age Client Info Changed Chan	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 15778 15274 14931 Oil Age hrs Client Info 504 0 0 Oil Changed Client Info Changed Changed Changed Changed Sample Status Imit/base current History1 History2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Chromium ppm ASTM DS185m >100 9 3 5 Chromium ppm ASTM DS185m >20 <1 <1 <1 Nickel ppm ASTM DS185m >20 0 0 0 Auminum ppm ASTM DS185m >30 0 0 0 Yiner ppm ASTM DS185m >30 2 1 <1 0 Silver pp	Sample Number		Client Info		GFL0111331	GFL0111278	GFL0111338
Oil Age Ins Client Info 504 0 0 Oil Changed Client Info Changed Changed Changed Sample Status Imit/base current History1 History2 Fuel WC Method >5 <1.0 <1.0 VIC Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Wear METALS method Imit/base current History1 History2 Iron ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >20 <1 <1 0 Aluminum ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >3 0 <1 0 Cadmium ppm ASTM D5185m 21 <1 <1 0 AstM D5185m 0 <1	Sample Date		Client Info		04 Jun 2024	25 Mar 2024	06 Feb 2024
Oil Changed Client Info Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL CONTAMINATION method imit/base current history1 history2 Fuel WC Method >5. <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG VEAR METALS method Imit/base current history1 history2 Iron ppm ASTM D5185m >100 9 3 5 Chromium ppm ASTM D5185m >20 <1 <1 0 Silver ppm ASTM D5185m >3 0 0 0 1 0 Copper ppm ASTM D5185m >30 2 1 <1 1 0 Copper ppm ASTM D5185m >30 2 1 <1 1 0 Copper ppm	Machine Age	hrs	Client Info		15778	15274	14931
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CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5165m >20 <1 <1 <1 1 <td< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>Changed</th><th>Changed</th><th>Changed</th></td<>	Oil Changed		Client Info		Changed	Changed	Changed
Fuel WC Method >5 <1.0	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG NEG NEG Glycol WC Method Imit/base current history1 history2 Iron ppm ASTM D5185m >100 9 3 5 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >20 <1 <1 0 Silver ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >30 0 0 <1 1 Copper ppm ASTM D5185m >40 2 1 <1 <1 Copper ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 0 Addenium ppm ASTM D5185m 15 <1 <1 0 Vanadium ppm <t< th=""><th>CONTAMINAT</th><th>ION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 9 3 5 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >4 0 <1 0 Silver ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >30 0 0 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 0 Cadmium ppm ASTM D5185m 0 <1 0 0 ADDTIVES method imit/base current history1 history2 Boron ppm ASTM D5185m 649 699 630	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 9 3 5 Chromium ppm ASTM D5185m >20 <1 <1 1 Nickel ppm ASTM D5185m >20 <1 0 0 Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >20 3 3 2 1 <1 Copper ppm ASTM D5185m >20 3 3 2 1 <1 0 Vanadium ppm ASTM D5185m >20 <1 <1 0	Water		WC Method	>0.2	NEG	NEG	NEG
Iron ppm ASTM D5185m >100 9 3 5 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >4 0 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >20 3 3 2 Copper ppm ASTM D5185m >330 2 <1 <1 Cadmium ppm ASTM D5185m >15 <1 <1 0 Cadmium ppm ASTM D5185m >15 <1 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 0 Mandamese ppm ASTM D5185m 121 135 116	Glycol		WC Method		NEG	NEG	NEG
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Nickel ppm ASTM D5185m >4 0 <1	Iron	ppm	ASTM D5185m	>100	9	3	5
Titanium ppm ASTM D5185m 0 <1	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 3 2 Lead ppm ASTM D5185m >40 2 1 <1 Copper ppm ASTM D5185m >40 2 <1 <1 Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 0 ADDITIVES method imit/base current history1 history2 Boron ppm ASTM D5185m 633 124 98 Barium ppm ASTM D5185m 0 0 0 Magnese ppm ASTM D5185m 649 699 630 Calcium ppm ASTM D5185m 866 874 774 Sulfur pm <th>Nickel</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>4</th> <th>0</th> <th><1</th> <th>0</th>	Nickel	ppm	ASTM D5185m	>4	0	<1	0
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Copper ppm ASTM D5185m >330 2 <1	Aluminum	ppm	ASTM D5185m	>20	3	3	2
Tin ppm ASTM D5185m<>15 <1	Lead	ppm	ASTM D5185m	>40	2	1	<1
Vanadium ppm ASTM D5185m 0 <1	Copper	ppm	ASTM D5185m	>330	2	<1	<1
Cadmium ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	<1	<1	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 83 124 98 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 121 135 116 Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 649 699 630 Calcium ppm ASTM D5185m 649 699 630 Calcium ppm ASTM D5185m 800 757 695 Zinc ppm ASTM D5185m 866 874 774 Sulfur ppm ASTM D5185m 20 21 20 Sodium ppm ASTM D5185m 22 4 5 4 Sodium ppm ASTM D5185m 22 2 0 0 INFRA-RED method limit/base current histor	Vanadium	ppm	ASTM D5185m		0	<1	0
Boron ppm ASTM D5185m 83 124 98 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 121 135 116 Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m <449 699 630 Calcium ppm ASTM D5185m 649 699 630 Calcium ppm ASTM D5185m 800 757 695 Zinc ppm ASTM D5185m 866 874 774 Sulfur ppm ASTM D5185m 2031 3544 3068 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 0 0 INFRA-RED ppm ASTM D5185m >20 2 0 0 INFRA-RED method limit/base current	Cadmium	ppm	ASTM D5185m		0	<1	0
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Maganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 649 699 630 Calcium ppm ASTM D5185m 1328 1323 1243 Phosphorus ppm ASTM D5185m 800 757 695 Zinc ppm ASTM D5185m 866 874 774 Sulfur ppm ASTM D5185m 4031 3544 3068 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 4 Sodium ppm ASTM D5185m >20 2 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.5 0.6 Nitration Abs/.mm *ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.lmm *ASTM D7644 >3 1 0.5 0.6 <	Molybdenum	ppm	ASTM D5185m		121	135	116
Calcium ppm ASTM D5185m 1328 1323 1243 Phosphorus ppm ASTM D5185m 800 757 695 Zinc ppm ASTM D5185m 866 874 774 Sulfur ppm ASTM D5185m 4031 3544 3068 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 4 Sodium ppm ASTM D5185m >25 4 5 4 Sodium ppm ASTM D5185m >20 2 0 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.5 0.6 Nitration Abs/cm<*ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.tmm<*ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADAT	Manganese	ppm	ASTM D5185m		<1	<1	0
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Sulfur ppm ASTM D5185m 4031 3544 3068 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 4 Sodium ppm ASTM D5185m >25 4 5 4 Sodium ppm ASTM D5185m >20 2 2 0 Potassium ppm ASTM D5185m >20 2 2 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.5 0.6 Nitration Abs/cm *ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25	Phosphorus	ppm	ASTM D5185m		800	757	695
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Silicon ppm ASTM D5185m >25 4 5 4 Sodium ppm ASTM D5185m 3 <1	Sulfur	ppm	ASTM D5185m		4031	3544	3068
Sodium ppm ASTM D5185m 3 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 2 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.5 0.6 Nitration Abs/cm *ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	Silicon	ppm	ASTM D5185m	>25	4	5	4
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.5 0.6 Nitration Abs/cm *ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	Sodium	ppm	ASTM D5185m		3	<1	2
Soot % % *ASTM D7844 >3 1 0.5 0.6 Nitration Abs/cm *ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	Potassium	ppm	ASTM D5185m	>20	2	2	0
Nitration Abs/cm *ASTM D7624 >20 9.1 8.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.0 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	Soot %	%	*ASTM D7844	>3	1	0.5	0.6
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	Nitration	Abs/cm	*ASTM D7624	>20	9.1	8.3	8.6
Oxidation Abs/.1mm *ASTM D7414 >25 13.6 13.9 14.0	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	18.0	18.0
	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	13.9	14.0



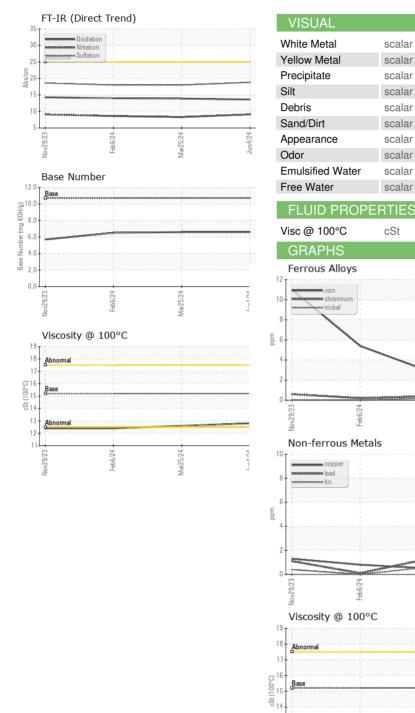
OIL ANALYSIS REPORT

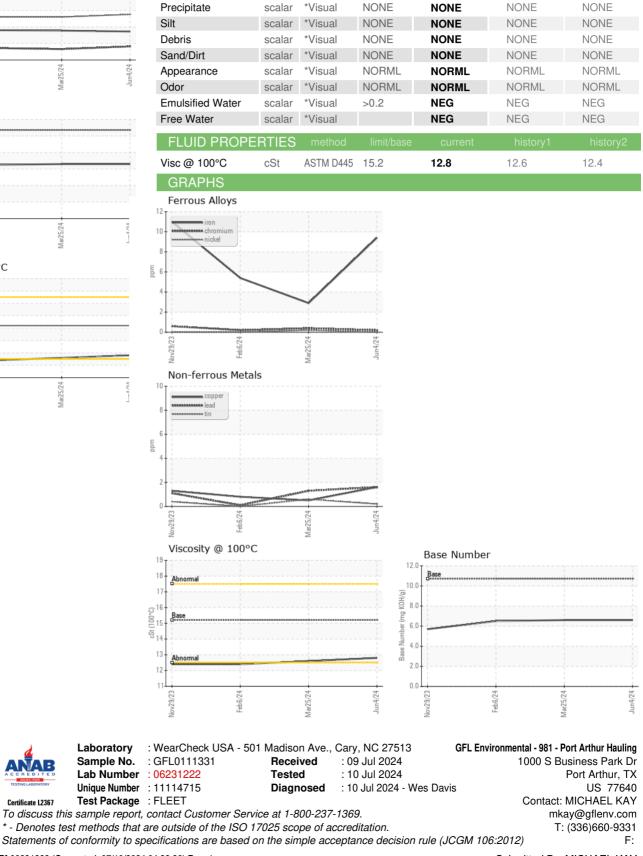
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Submitted By: MICHAEL KAY

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