

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend



# KENWORTH 775

#### Component Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- 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

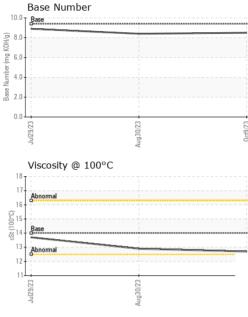
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	JATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0838310	WC0724732	WC0724733
Sample Date		Client Info		09 Oct 2023	30 Aug 2023	29 Jul 2023
Machine Age	mls	Client Info		896042	884075	873020
Oil Age	mls	Client Info		0	0	9000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	9	15
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	1	<1	3
Copper	ppm	ASTM D5185m	>330	2	2	3
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method				history2
ADDITIVES Boron	mag	method ASTM D5185m	limit/base 0	current 45	history1 46	history2 52
	ppm ppm	ASTM D5185m			· · · · ·	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	45 12	46 0	52
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	45 12 54	46 0 56	52 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	45 12 54 <1	46 0 56 <1	52 0 71 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	45 12 54 <1 558	46 0 56 <1 625	52 0 71 1 979
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	45 12 54 <1 558 1638	46 0 56 <1 625 1737	52 0 71 1 979 1355
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	45 12 54 <1 558 1638 770	46 0 56 <1 625 1737 863	52 0 71 1 979 1355 1087
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	45 12 54 <1 558 1638	46 0 56 <1 625 1737	52 0 71 1 979 1355
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0	45 12 54 <1 558 1638 770 947	46 0 56 <1 625 1737 863 1023 3266	52 0 71 1 979 1355 1087 1367 4074
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 limit/base	45 12 54 <1 558 1638 770 947 2482 current	46 0 56 <1 625 1737 863 1023 3266 history1	52 0 71 1 979 1355 1087 1367 4074 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	0 0 0 0 0 limit/base	45 12 54 <1 558 1638 770 947 2482 current 10	46 0 56 <1 625 1737 863 1023 3266 history1 15	52 0 71 1 979 1355 1087 1367 4074 <b>history2</b> ▲ 29
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 0 0 Imit/base >25	45 12 54 <1 558 1638 770 947 2482 current 10 3	46 0 56 <1 625 1737 863 1023 3266 history1 15 5	52 0 71 1 979 1355 1087 1367 4074 <b>history2</b> ▲ 29 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45 12 54 <1 558 1638 770 947 2482 current 10 3 3	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0	52 0 71 1 979 1355 1087 1367 4074 <b>history2</b> ▲ 29 8 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 0 0 Imit/base >25	45 12 54 <1 558 1638 770 947 2482 current 10 3 3	46 0 56 <1 625 1737 863 1023 3266 history1 15 5	52 0 71 1 979 1355 1087 1367 4074 <b>history2</b> ▲ 29 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45 12 54 <1 558 1638 770 947 2482 current 10 3 3	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0	52 0 71 1 979 1355 1087 1367 4074 <b>history2</b> ▲ 29 8 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 12 54 <1 558 1638 770 947 2482 <u>current</u> 10 3 3 3	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0 0	52 0 71 1 979 1355 1087 1367 4074 <b>bistory2</b> 8 7 8 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45 12 54 <1 558 1638 770 947 2482 <u>current</u> 10 3 3 3 <u>current</u>	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0 0 history1 0.1	52 0 71 1 979 1355 1087 1367 4074 <b>bistory2</b> 29 8 7 29 8 7 <b>bistory2</b> 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45 12 54 <1 558 1638 770 947 2482 <u>current</u> 10 3 3 <u>current</u> 0.1 7.5	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0 history1 0.1 8.9	52 0 71 1 979 1355 1087 1367 4074 <b>bistory2</b> 29 8 7 29 8 7 <b>bistory2</b> 0.1 8.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 12 54 <1 558 1638 770 947 2482 <u>current</u> 10 3 3 3 <u>current</u> 0.1 7.5 21.7	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0 history1 0.1 8.9 20.9	52 0 71 1 979 1355 1087 1367 4074 <b>bistory2</b> 29 8 7 29 8 7 <b>bistory2</b> 0.1 8.1 20.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 12 54 <1 558 1638 770 947 2482 Current 10 3 3 Current 0.1 7.5 21.7 Current	46 0 56 <1 625 1737 863 1023 3266 history1 15 5 0 history1 0.1 8.9 20.9 history1	52 0 71 1 979 1355 1087 1367 4074 29 8 7 29 8 8 7 history2 0.1 8.1 20.7



## **OIL ANALYSIS REPORT**

VISUAL



	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
5	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Udor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water		*Visual		NEG	NEG	NEG
	FLUID PROPER		method	limit/base		history1	history2
	Visc @ 100°C	cSt	ASTM D445	14	12.7	12.9	13.7
	GRAPHS						
	Ferrous Alloys						
	14- iron						
	12 - nickel						
	10						
	Md 8-						
	6						
	4						
		********					
	53	/23		/23			
	Jul29/23	Aug30/23		0ct9/23			
	Non-ferrous Meta						
	<sup>10</sup> T						
	8 - copper						
	annen tin						
	6-						
	2						
		TH DERIG AND DESCRIPTION OF THE OWNER OWNER OF THE OWNER O					
		0/23		9/23			
	2	Aug30/23		0ct9/23			
				0ct9/23	Base Number		
	- E129/23			0ct6)/33	Base Number		
	Viscosity @ 100°C			10	Base		
	Viscosity @ 100°C			10	Base		
	Viscosity @ 100°C			10	Base		
	Viscosity @ 100°C			10	Base		
	Viscosity @ 100°C			10	0.0 Base		
	Viscosity @ 100°C			10 (0)HOX but see ynumper (und (VHOX) asse ynumper (und (VHOX) asse ynumper (Und (VHOX)) asse ynumper (VHOX)) asse ynumper (Und (VHOX)) asse ynumper (VHOX)	Base		
	Viscosity @ 100°C			(0) 8 (0) HOX But January assessed 2	Base		
	Viscosity @ 100°C			10 (6) HOX (6) Buyese g B	Base	123-	
	Viscosity @ 100°C			(0) 8 (0) HOX But January assessed 2	Base	ng 30/23	
	Viscosity @ 100°C	Aug30/23		8 (0) AB (0) (0) Base Mumber (mg Base Mumber (	Base Base Comparison of the second	Aug30/23	
Laboratory	Viscosity @ 100°C	Economic Economic 501 Madis		10 (0)10 B (0)10 B (0)	Base Base Comparison of the second		
Sample No.	Viscosity @ 100°C	501 Madis Received	I : 13 (	10 (0) 8 (0) 10 (0) 10	Base Base Comparison of the second	KG	742 HWY 1
Sample No. Lab Number	Viscosity @ 100°C	501 Madis Received Diagnose	l :130 ed :160	10 ()() 8 ()() 9 ()() 9 ()()() 9 ()()()()()()()()()()()()()()()()()()()	Base Base Comparison of the second	KG	<b>R TRANSPOI</b> 742 HWY 1 10UDRANT, 1 US 712
Sample No.	Viscosity @ 100°C	501 Madis Received	l :130 ed :160	10 (0) 8 (0) 10 (0) 10	Base Base Comparison of the second	<b>КG</b> I СН	742 HWY 1 IOUDRANT, I US 712
Sample No. Lab Number Unique Number Test Package this sample report	Viscosity @ 100°C	501 Madis Received Diagnose Diagnost	l : 13 ( ed : 16 ( ician : Wes	10 10 10 10 10 10 10 10 10 10	1.0 Base 1.0 Exclosing 1.0 Exclosing 1.3	KG CF Contact:	742 HWY 1

Contact/Location: CHAD REEVES - KGRCHO