

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

KENWORTH 525113-SW7509

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

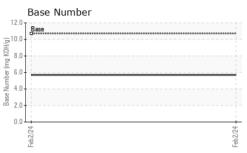
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111336		
Sample Date		Client Info		02 Feb 2024		
Machine Age	hrs	Client Info		17441		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	20		
Chromium	ppm		>20	<1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	6		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	 history1	 history2
	ppm ppm		limit/base	-		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 65	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 65 9	history1 	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 65 9 118	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 65 9 118 0	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 65 9 118 0 657	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 65 9 118 0 657 1282	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 65 9 118 0 657 1282 712	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 65 9 118 0 657 1282 712 822	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 65 9 118 0 657 1282 712 822 3208 current 5	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 65 9 118 0 657 1282 712 822 3208 current	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25 >20	current 65 9 118 0 657 1282 712 822 3208 current 5	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base	current 65 9 118 0 657 1282 712 822 3208 current 5 2 <1 current	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3	current 65 9 118 0 657 1282 712 822 3208 current 5 2 <1 current 0.4	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current 65 9 118 0 657 1282 712 822 3208 current 5 2 <1 current 0.4 10.7	history1 history1 history1 history1 history1	history2 history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3	current 65 9 118 0 657 1282 712 822 3208 current 5 2 <1 current 0.4	history1 history1 history1 history1	history2 history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current 65 9 118 0 657 1282 712 822 3208 current 5 2 <1 current 0.4 10.7	history1 history1 history1 history1	history2 history2 history2 history2 history2 <
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	Imit/base >25 >20 Imit/base >20 >3 >20 >30	current 65 9 118 0 657 1282 712 822 3208 current 5 2 <1 current 0.4 10.7 19.5	history1 history1 history1 history1 history1 </td <td>history2 history2 history2 </td>	history2 history2 history2



Feb2/24

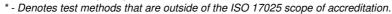
OIL ANALYSIS REPORT



Viscosity @ 100°C 19-18 Abnormal 17 () 16 () 15 15 14 Base 13 Abnormal 12 11

· · · · · · · · · · · · · · · · · · ·	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
/24	Appearance	scalar	*Visual	NORML	NORML		
Feb2/24	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water			>0.Z	NEG		
		scalar	*Visual		NEG		
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.2	13.3		
	GRAPHS						
	Ferrous Alloys						
	20 iron						
N C(C 14-3	sessesses chromium						
ů.	15 -						
	Exa						
	툡 10						
	5-						

	2 4 0		*******	24			
	Feb 2/24			Feb2/24			
	Non-ferrous Meta	lc.					
	10 _T						
	copper						
	8 - management tin						
	6						
	m d d						
	4						
	4						
	4-2-						
	4						
	4	*****		b2/24			
	2			Feb2/24			
	Viscosity @ 100°			Feb2/24	Base Number		
	Viscosity @ 100°0			47 20 20 20 21 21	Base Number		
	Viscosity @ 100°0	2		12.	Base		
	Viscosity @ 100°0	5		12.	0 Base		
	Viscosity @ 100°0	C		12.	0 Base		
	Viscosity @ 100°0	5		12.	0 0 0		
	4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	C		12.	0 Base		
	Viscosity @ 100°0	C		12. (6)(HO) 8 (10) 10 (10)(HO) 8 (10)(HO) 8	0 0 0 0		
	Viscosity @ 100°0	C		12.	0 0 0 0		
	Viscosity @ 100°C	C		12. (b) HOX BU HOX BU H	0 Base		
	Viscosity @ 100°C	2		12. (b) HOX BU HOX BU H	0 Base		
	Viscosity @ 100° Viscosity @ 100° Abnomal	2		12. 10. 10. 10. 10. 10. 8. 8. 10. 12. 8. 8. 12. 12. 12. 12. 12. 12. 12. 12. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	Base 0 0 0 0 0 0 0 0 0		
	Viscosity @ 100° Viscosity @ 100° Abnormal Abnormal 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			12. 10. 10. 8. 10. 8. 10. 8. 10. 8. 10. 10. 8. 10. 10. 10. 10. 10. 10. 10. 10	0 Base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ronmental - 081 - D	ort Arthur Haul
Laboratory	Viscosity @ 100°C			12. 10. 10. 8. 10. 8. 10. 8. 10. 8. 10. 10. 8. 10. 10. 10. 10. 10. 10. 10. 10	0 Base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ronmental - 981 - P 1000 S Bu	
	Viscosity @ 100°0 Viscosity @ 100°0 Abnormal 17 4 4 4 4 4 4 4 4 4 4 4 4 4)1 Madisc	ived : 27	12. 10. 10. 10. 10. 10. 10. 10. 10	0 Base 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1000 S Bi	isiness Park
Laboratory Sample No. Lab Number Unique Number	Viscosity @ 100°0 Viscosity @ 100°0 Abnomal Control 19 Abnomal Control 19 Abnomal Control 19 Abnomal Control 19 Base Control 19 Control 19 Abnomal Control 19 Control 19 C	01 Madisc Rece Teste	ived : 27 ed : 28	12. 10. 10. 10. 10. 10. 10. 10. 10	GFL Envir	1000 S Bi	Isiness Park Port Arthur, US 776
Laboratory Sample No. Lab Number	Viscosity @ 100°0 Viscosity @ 100°0 Abnomal Control 19 Abnomal Control 19 Abnomal Control 19 Base WearCheck USA - 50 C GFL0111336 C 06101354 C 10899584 C FLEET	01 Madisco Rece Teste Diagr	ived : 27 ed : 28 nosed : 28	, NC 27513 Feb 2024 Feb 2024 - V	GFL Envir	1000 S Bu Contact:	isiness Park Port Arthur,



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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