

OIL ANALYSIS REPORT



Machine Id 40015 Component Diesel Engine Fluid KENDALL 15W40 (--- QTS)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

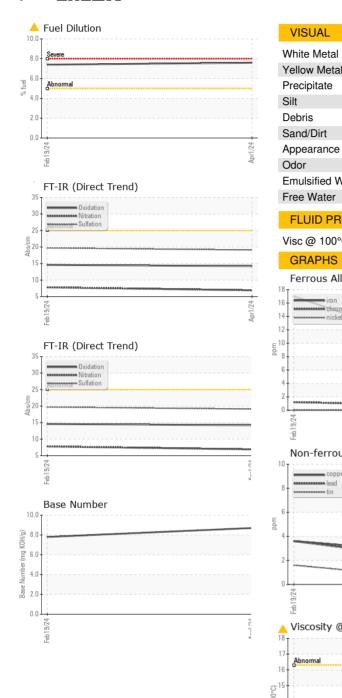
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0867765	WC0867750	
Sample Date		Client Info		01 Apr 2024	19 Feb 2024	
Machine Age	hrs	Client Info		6157	5946	
Oil Age	hrs	Client Info		211	553	
Oil Changed		Client Info		Changed	Changed	
Sample Status				ABNORMAL	ABNORMAL	
CONTAMINATION	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	17	
Chromium	ppm	ASTM D5185m	>20	<1	1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		72	74	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	3	5	
Lead	ppm	ASTM D5185m	>40	2	4	
Copper	ppm	ASTM D5185m	>330	1	4	
Tin	ppm	ASTM D5185m	>15	0	2	
Vanadium	ppm	ASTM D5185m		2	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base		1.	la la tamu O
ADDITIVES		method	iimivbase	current	history1	history2
Boron	ppm	ASTM D5185m	6.3	130	127	nistory2
	ppm ppm		6.3			
Boron		ASTM D5185m	6.3	130	127	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	6.3 0.6	130 0	127 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	6.3 0.6	130 0 9	127 0 6	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	6.3 0.6 0.4	130 0 9 0	127 0 6 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	6.3 0.6 0.4 277	130 0 9 0 400	127 0 6 <1 382	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	6.3 0.6 0.4 277 1514 634	130 0 9 0 400 1715	127 0 6 <1 382 1584	
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 ASTM D5185m	6.3 0.6 0.4 277 1514 634	130 0 9 0 400 1715 852	127 0 6 <1 382 1584 890	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	6.3 0.6 0.4 277 1514 634 743	130 0 9 0 400 1715 852 1159	127 0 6 <1 382 1584 890 1071	
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	6.3 0.6 0.4 2777 1514 634 743 2592 limit/base	130 0 9 0 400 1715 852 1159 4222	127 0 6 <1 382 1584 890 1071 3388	
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	6.3 0.6 0.4 2777 1514 634 743 2592 limit/base	130 0 9 0 400 1715 852 1159 4222 current	127 0 6 <1 382 1584 890 1071 3388 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	6.3 0.6 0.4 2777 1514 634 743 2592 limit/base	130 0 9 0 400 1715 852 1159 4222 current 3	127 0 6 <1 382 1584 890 1071 3388 history1 4	 history2
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 method ASTM D5185m	6.3 0.6 0.4 2777 1514 634 743 2592 limit/base >25	130 0 9 0 400 1715 852 1159 4222 current 3 6	127 0 6 <1 382 1584 890 1071 3388 history1 4 2	 history2
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	6.3 0.6 0.4 277 1514 634 743 2592 limit/base >25	130 0 9 0 400 1715 852 1159 4222 current 3 6 10	127 0 6 <1 382 1584 890 1071 3388 history1 4 2 2 <1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	6.3 0.6 0.4 2777 1514 634 743 2592 limit/base >25 >20 >20	130 0 9 0 400 1715 852 1159 4222 current 3 6 10 10 ∧ 7.6	127 0 6 <1 382 1584 890 1071 3388 history1 4 2 <1 4 2 <1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	6.3 0.6 0.4 277 1514 634 743 2592 limit/base >25 >20 >20 >5 limit/base >3	130 0 9 0 400 1715 852 1159 4222 current 3 6 10 10 ► 7.6 current	127 0 6 <1 382 1584 890 1071 3388 history1 4 2 <1 ▲ 7.4 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844	6.3 0.6 0.4 277 1514 634 743 2592 limit/base >25 >20 >20 >5 limit/base >3	130 0 9 0 400 1715 852 1159 4222 current 3 6 10 7.6 current 0.4	127 0 6 <1 382 1584 890 1071 3388 history1 4 2 <1 ↓ 7.4 history1 0.4	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7844	6.3 0.6 0.4 277 1514 634 743 2592 limit/base >20 >5 limit/base >3 >20	130 0 9 0 400 1715 852 1159 4222 current 3 6 10 ▼ 7.6 current 0.4 6.9	127 0 6 <1 382 1584 890 1071 3388 history1 4 2 <1 ↓ 7.4 history1 0.4 7.8	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	6.3 0.6 0.4 277 1514 634 743 2592 limit/base >25 >20 >5 limit/base >3 >20 >30	130 0 9 0 400 1715 852 1159 4222 current 3 6 10 7.6 current 0.4 6.9 19.1 current	127 0 6 382 1584 890 1071 3388 history1 4 2 <1 ↓ 7.4 history1 0.4 7.8 19.7	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 ASTM D3524 *ASTM D7844 *ASTM D7844 *ASTM D7415	6.3 0.6 0.4 277 1514 634 743 2592 limit/base >25 >20 >5 limit/base >3 >20 >30	130 0 9 0 400 1715 852 1159 4222 current 3 6 10 7.6 current 0.4 6.9 19.1	127 0 6 <1 382 1584 890 1071 3388 history1 4 2 <1 ▲ 7.4 history1 0.4 7.8 19.7	 history2 history2 history2 history2 history2 history2



OIL ANALYSIS REPORT



		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		11.6	▲ 11.8	
GRAPHS	031	ASTIVI D445	4	11.0	11.0	
Ferrous Alloys						
and the second s						
economium						
nickel						
2						
]						
2						
)						
/24			Apr1/24 .			
Feb 1 9/2 4			Apr1			
—						
Non-ferrous Meta	le le					
	15					
T.						
copper	15					
copper	15					
	15					
copper	5					
copper lead	6					
copper lead	6					
copper lead						
copper lead						
8+ copper lead						
copper lead						
copper lead			54			
copper lead			apri/24			
copper lead			Apr1/24			
Copper lead tin billing Viscosity @ 100°C			Apr1/24	Base Numb	er	
Copper lead tin billing Viscosity @ 100°C			401/24	Base Numb	er	
Copper lead			9.0	Base Numb	er	
Copper lead tin Viscosity @ 100°C			9.0		er	
Viscosity @ 100°C			9.0		er	
Copper lead tin Viscosity @ 100°C			9.0		er	
Viscosity @ 100°C			9.0		er	
Copper lead tin Viscosity @ 100°C			9.0		er	
Copper lead tin Viscosity @ 100°C			9.0		er	
Copper lead tin Viscosity @ 100°C			9.0		er	
Copper lead tin Viscosity @ 100°C			9.0		er	
Copper lead win Viscosity @ 100°C			9.0 8.0 (a) 1.0 VQ 6.0 UQ 5.0 4 4.0 9.3 0.0 8 2.0 1.0		er	
Copper lead			9.0 8.0 (b)HOJ 06.0 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5		er	
Copper lead			9.0 8.0 (b)HOJ 06.0 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5		er	
Copper lead tin Viscosity @ 100°C			9.0 8.0 (a) 1.0 VQ 6.0 UQ 5.0 4 4.0 9.3 0.0 8 2.0 1.0		er	
Copper lead			9.0 8.0 (b)HOJ 06.0 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5		er	
Copper lead			9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	Feb19/24		
Viscosity @ 100°C	1 Madisc		9.0 8.0 (PHO) 0.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0	+7201 tipes	ENEVILLE OIL & PI	
Viscosity @ 100°C	1 Madisc Rece	ived : 04	9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	+7201 tipes	ENEVILLE OIL & PI	E TROLEUM IN OHNSON HW
Viscosity @ 100°C	1 Madisc	ived : 04 ed : 08	9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	60 V	ENEVILLE OIL & PI	ETROLEUM IN
Copper lead	1 Madisc Rece Teste	ived : 04 ed : 08	9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	60 V	ENEVILLE OIL & PI	E TROLEUM IN OHNSON HW

 Certificate L2367
 Test Package
 : FLEET (Additional Tests: PercentFuel)

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Report Id: GREGRETN [WUSCAR] 06139220 (Generated: 04/08/2024 14:57:32) Rev: 1

Laboratory Sample No. Lab Number Unique Number

Contact/Location: SHOP ? - GREGRETN

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