

OIL ANALYSIS REPORT

Area [PMOAS3372455] 6130608284

Diesel Engine Fluid DIESEL ENGINE OIL SAE 5W30 (--- QTS)

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

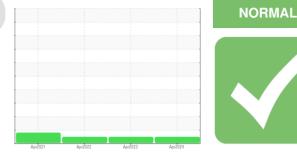
All component wear rates are normal.

Contamination

Fuel content negligible. 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	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		DC0035027	DC0026720	DC0020439
Sample Date		Client Info		15 Apr 2024	07 Apr 2023	20 Apr 2022
Machine Age	hrs	Client Info		0	282	249
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	6	3	4
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	7	6	7
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	<1	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	4	6	4
Tin	ppm	ASTM D5185m	>15	0	0	0
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 130	history1 212	history2 99
	ppm ppm					
Boron		ASTM D5185m	250	130	212	99
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	130 0	212 0	99 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	130 0 52	212 0 66	99 0 35
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	130 0 52 0	212 0 66 <1	99 0 35 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	130 0 52 0 716	212 0 66 <1 535	99 0 35 0 643
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	130 0 52 0 716 979	212 0 66 <1 535 1221	99 0 35 0 643 1009
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	250 10 100 450 3000 1150	130 0 52 0 716 979 708	212 0 66 <1 535 1221 705	99 0 35 0 643 1009 693
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	250 10 100 450 3000 1150 1350	130 0 52 0 716 979 708 788	212 0 66 <1 535 1221 705 795	99 0 35 0 643 1009 693 750
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	250 10 100 450 3000 1150 1350 4250	130 0 52 0 716 979 708 788 3231	212 0 66 <1 535 1221 705 795 3541 history1 11	99 0 35 0 643 1009 693 750 2630
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	250 10 100 450 3000 1150 1350 4250	130 0 52 0 716 979 708 788 3231 current	212 0 66 <1 535 1221 705 795 3541 history1	99 0 35 0 643 1009 693 750 2630 history2
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	250 10 100 450 3000 1150 1350 4250 limit/base >25	130 0 52 0 716 979 708 788 3231 current 14	212 0 66 <1 535 1221 705 795 3541 history1 11	99 0 35 0 643 1009 693 750 2630 history2 16
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 ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	130 0 52 0 716 979 708 788 3231 current 14 2	212 0 66 <1 535 1221 705 795 3541 history1 11 2	99 0 35 0 643 1009 693 750 2630 history2 16 <1
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	250 10 100 450 3000 1150 1350 4250 imit/base >25	130 0 52 0 716 979 708 788 3231 <u>current</u> 14 2 2 <1	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1	99 0 35 0 643 1009 693 750 2630 history2 16 <1 0
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	250 10 100 450 3000 1150 1350 4250 imit/base >25 >20 >5	130 0 52 0 716 979 708 788 3231 <u>current</u> 14 2 <1 0.1	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1 <1.0	99 0 35 0 643 1009 693 750 2630 history2 16 <1 0 <1.0
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	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >20 >5	130 0 52 0 716 979 708 788 3231 <i>current</i> 14 2 <1 0.1 <i>current</i>	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1 1 <2 1 <1.0 kistory1	99 0 35 0 643 1009 693 750 2630 history2 16 <1 0 <1.0 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	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >20 >5 i mit/base >3	130 0 52 0 716 979 708 788 3231 <i>current</i> 14 2 <1 0.1 <i>current</i>	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1 <1.0 history1 0	99 0 35 0 643 1009 693 750 2630 history2 16 <1 0 <1.0 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus 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	250 10 100 450 3000 1150 1350 4250 imit/base >20 imit/base >3 >20	130 0 52 0 716 979 708 788 3231 <u>current</u> 14 2 <1 0.1 0.1 <u>current</u> 0.1 6.5	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1 <1.0 history1 0 5.3	99 0 35 0 643 1009 693 750 2630 history2 16 <1 0 <1.0 history2 0 7.5
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 D5185m	250 10 100 450 3000 1150 1350 4250 binit/base >25 >20 >5 binit/base >3 >20 >3 >20	130 0 52 0 716 979 708 788 3231 <i>current</i> 14 2 <1 0.1 0.1 <i>current</i> 0.1 6.5 14.9	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1 <1.0 history1 0 5.3 13.0	99 0 35 0 643 1009 693 750 2630 history2 16 <10 <10 <1.0 history2 0 7.5 17.1
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	250 10 100 450 3000 1150 1350 4250 imit/base >25 20 >5 imit/base >3 320 >30	130 0 52 0 716 979 708 788 3231 <i>current</i> 14 2 <1 0.1 0.1 <i>current</i> 0.1 6.5 14.9	212 0 66 <1 535 1221 705 795 3541 history1 11 2 1 <1.0 history1 0 5.3 13.0 history1	99 0 35 0 643 1009 693 750 2630 history2 16 <10 <1.0 41.0 history2 0 7.5 17.1 history2

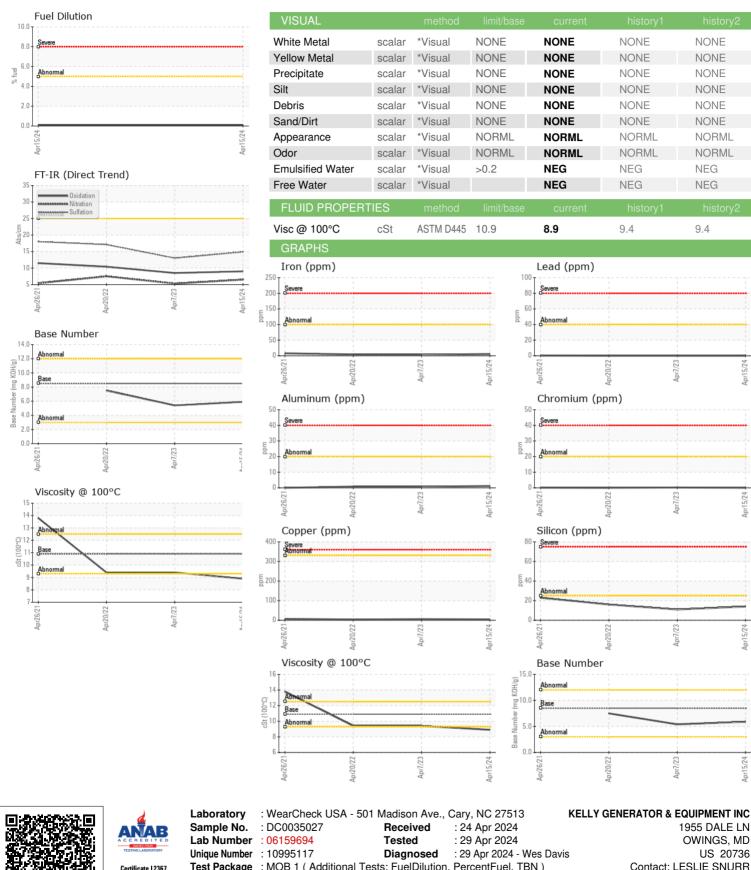
Report Id: KELOWI [WUSCAR] 06159694 (Generated: 05/07/2024 10:56:14) Rev: 1

Contact/Location: LESLIE SNURR - KELOWI

Sample Rating Trend



OIL ANALYSIS REPORT



Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN) 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)

1955 DALE LN OWINGS, MD US 20736 Contact: LESLIE SNURR LSNURR@KGE.COM T: (410)257-5225 F: (410)257-5227

Apr7/23

NONE

NONE

NONE

NONE

NONE

NONE

NORML

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NEG

NEG

9.4

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Report Id: KELOWI [WUSCAR] 06159694 (Generated: 05/07/2024 10:56:15) Rev: 1

Contact/Location: LESLIE SNURR - KELOWI