

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

CUMMINS 10804

Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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		GFL0086190	GFL0086218	GFL0057605
Sample Date		Client Info		27 Sep 2023	12 Sep 2023	03 May 2023
Machine Age	hrs	Client Info		14854	14854	14854
Oil Age	hrs	Client Info		15890	15764	15585
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.6	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	9	7	24
Chromium	ppm	ASTM D5185m	>20	۔ د1	<1	3
Nickel	maa	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	7	15
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	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 11	history1 19	history2 16
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 250 10	current 11 0	history1 19 0	history2 16 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100	current 11 0 62	history1 19 0 62	history2 16 0 64
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100	current 11 0 62 <1	history1 19 0 62 <1	history2 16 0 64 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100 450	current 11 0 62 <1 804	history1 19 0 62 <1 803	history2 16 0 64 <1 791
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100 450 3000	current 11 0 62 <1 804 1098	history1 19 0 62 <1 803 1129	history2 16 0 64 <1 791 1068
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100 450 3000 1150	current 11 0 62 <1 804 1098 928	history1 19 0 62 <1 803 1129 951	history2 16 0 64 <1 791 1068 982
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350	current 11 0 62 <1 804 1098 928 1156	history1 19 0 62 <1 803 1129 951 1119	history2 16 0 64 <1 791 1068 982 1154
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 4250	current 11 0 62 <1 804 1098 928 1156 2877	history1 19 0 62 <1 803 1129 951 1119 3376	history2 16 0 64 <1 791 1068 982 1154 2745
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base	current 11 0 62 <1 804 1098 928 1156 2877 current	history1 19 0 62 <1 803 1129 951 1119 3376 history1	history2 16 0 64 <1 791 1068 982 1154 2745 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >25	current 11 0 62 <1 804 1098 928 1156 2877 current 3	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm	method ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1 14	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2 <1	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0 3
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 TS	method ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1 14	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2 <1 history1	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0 3 history2
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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 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1 14 current 0.4 7.7	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2 <1 0.4 6.5	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0 3 history2 0.2 6.9
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 ppm	method ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 >20 >30	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1 14 current 0.4 7.7 18.1	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2 <1 history1 0.4 6.5 16.5	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0 3 history2 0.2 6.9 16.5
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 ppm	method ASTM D5185m ASTM D5185m	limit/base 250 10 100 450 3000 1150 1350 250 216 >20 limit/base >3 >20 30 limit/base Mathematical statematical	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1 14 current 0.4 7.7 18.1	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2 <1 0.4 6.5 16.5 history1	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0 3 history2 0.2 6.9 16.5 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D71814 *ASTM D7414	limit/base 250 10 10 450 3000 1150 1350 4250 216 >216 >20 limit/base >3 >20 30 limit/base >25	current 11 0 62 <1 804 1098 928 1156 2877 current 3 <1 14 current 0.4 7.7 18.1 current 13.7	history1 19 0 62 <1 803 1129 951 1119 3376 history1 3 2 <1 history1 0.4 6.5 16.5 history1 11.0	history2 16 0 64 <1 791 1068 982 1154 2745 history2 4 0 3 history2 0.2 6.9 16.5 history2 12.9



Bas cSt (100°C) Å

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Sep6/17

Aug16/18

Jul9/19

OIL ANALYSIS REPORT

VISUAL



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TESTING LA	ABORATORY	Unic	ue Numbe	r : 10674	4050	Diagnost	ician : We	s Davis				US 30213
Certifica	ite L2367	Tes	t Package	: FLEE	Т	0.10	-				Con	tact: Eric Jones
To dis	cuss th	is sam	ple report,	contact C	Customer Ser	vice at 1-8	00-237-1369	Э.			erjone	es@gflenv.com
* - De	notes te	est mei	thods that	are outsio	le of the ISO	17025 sco	pe of accred	litation.	- (ICCM 100	2012)	T:	(678)630-9927
Sialen	neniis of	CUIIIO	niity to spe	uncanons	are pased on	uie simple	acceptance (	Jecision rule	- (JUGIVI 106)	2012)		F:

Submitted By: Eric Jones Page 2 of 2