

OIL ANALYSIS REPORT

GEN OIL SAMPLE Machine Id CUMMINS BLOWER GEN Component

Center Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (70 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

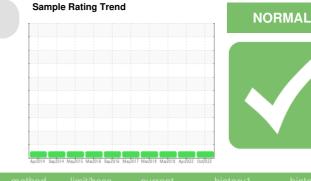
Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

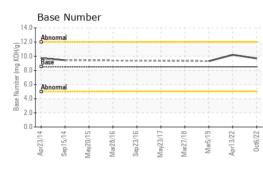
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

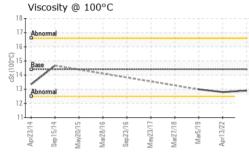


SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0749222	WC0685696	WCI2290135
Sample Date		Client Info		06 Oct 2022	13 Apr 2022	05 Mar 2019
Machine Age	hrs	Client Info		362	338	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	3	3	2
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		4	3	3
Silver	ppm	ASTM D5185m	>2	1	<1	0
Aluminum	ppm	ASTM D5185m	>20	<1	<1	<1
Lead	ppm	ASTM D5185m	>40	6	5	3
Copper	ppm	ASTM D5185m	>330	11	10	7
Tin	ppm	ASTM D5185m	>15	2	2	1
Antimony	ppm	ASTM D5185m				8
Vanadium	ppm	ASTM D5185m		1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
	maa					
Boron	ppm pom	ASTM D5185m	250	5	9	10
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	5 0	9	10 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m	250	5	9	10
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	5 0 39	9 0 37 <1	10 <1 37
Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	5 0 39 1	9 0 37 <1 719	10 <1 37 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	5 0 39 1 715	9 0 37 <1	10 <1 37 <1 722
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	5 0 39 1 715 1369	9 0 37 <1 719 1377	10 <1 37 <1 722 1171
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	5 0 39 1 715 1369 1042	9 0 37 <1 719 1377 1003	10 <1 37 <1 722 1171 937
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	5 0 39 1 715 1369 1042 1225	9 0 37 <1 719 1377 1003 1207	10 <1 37 <1 722 1171 937 1038
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	5 0 39 1 715 1369 1042 1225 3770	9 0 37 <1 719 1377 1003 1207 2852	10 <1 37 <1 722 1171 937 1038 3175
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	5 0 39 1 715 1369 1042 1225 3770 current	9 0 37 <1 719 1377 1003 1207 2852 history1	10 <1 37 <1 722 1171 937 1038 3175 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 imit/base	5 0 39 1 715 1369 1042 1225 3770 current 5	9 0 37 <1 719 1377 1003 1207 2852 history1 4	10 <1 37 <1 722 1171 937 1038 3175 history2 3
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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	5 0 39 1 715 1369 1042 1225 3770 current 5 10	9 0 37 <1 719 1377 1003 1207 2852 history1 4 8	10 <1 37 <1 722 1171 937 1038 3175 history2 3 10
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 limit/base >25 >158 >20	5 0 39 1 715 1369 1042 1225 3770 current 5 10 0 0	9 0 37 <1 719 1377 1003 1207 2852 history1 4 8 0	10 <1 37 <1 722 1171 937 1038 3175 history2 3 10 1
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 ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >6	5 0 39 1 715 1369 1042 1225 3770 current 5 10 0 0 current 0.1	9 0 37 <1 719 1377 1003 1207 2852 history1 4 8 0 0 history1 0.1	10 <1 37 <1 722 1171 937 1038 3175 history2 3 10 1 1 history2 0.1
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	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >6	5 0 39 1 715 1369 1042 1225 3770 current 5 10 0 0	9 0 37 <1 719 1377 1003 1207 2852 history1 4 8 0 0	10 <1 37 <1 722 1171 937 1038 3175 history2 3 10 1 1 history2
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	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >158 >20 i mit/base >6 >20	5 0 39 1 715 1369 1042 1225 3770 <i>current</i> 5 10 0 <i>current</i> 0.1 7.8	9 0 37 <1 719 1377 1003 1207 2852 history1 4 8 0 history1 0.1 8.7	10 <1 37 <1 722 1171 937 1038 3175 history2 3 10 1 1 history2 0.1 6
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	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base >6 >20	5 0 39 1 715 1369 1042 1225 3770 <u>current</u> 5 10 0 0 <u>current</u> 0.1 7.8 18.4	9 0 37 <1 719 1377 1003 1207 2852 history1 4 8 0 0 history1 0.1 8.7 18.3	10 <1 37 <1 722 1171 937 1038 3175 history2 3 10 1 1 history2 0.1 6 15.5



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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT	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
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	12.9	12.8	12.99
GRAPHS						

Ferrous Alloys 10 ppm n Sep23/16 pr13/22 Mar27/18 Mar5/19 Apr23/14 Sep 15/14 Mar28/16 1/1/0/vel Mav23/1 Non-ferrous Metals 2 20 15 Apr13/22 0ct6/22 Sep 15/14 1/17/1/ Apr23/ Viscosity @ 100°C Base Number 18 14.0 17 12.0 (B/HOX Bu). 16 Ba cSt (100°C) В umber 6.0 Base 4 (Abn 12 2.0 0.0 0ct6/22. Mar5/19 Apr13/22 Sep15/14 Mar27/18 Apr23/14 Sep 15/14 Mav20/15 Mar28/16 Sep23/16 Mav23/17 Apr23/14 Mav20/15 Mar28/16 Sen23/16 /lav23/1 Mar27/18 Mar5/19 NORTH CARY WATER RECLAMATION FACILITY : WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0749222 Received : 07 Oct 2022 1900 OLD REEDY CREEK RD Lab Number : 05660992 : 10 Oct 2022 CARY, NC Diagnosed Unique Number : 10165561 Diagnostician : Wes Davis US 27513 Test Package : IND 2 Contact: BRIAN CARTWRIGHT

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)

Certificate L2367

Laboratory

Sample No.

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Dct6/22

pr13/22