

OIL ANALYSIS REPORT

Area [W96462] **GENERAC 2108679 - CLASSIC GOOPLUS**

Component **Diesel Engine**

Elui

SHELL ROTELLA T 15W40 (4 GAL)

Recommendation

Resample at the next service interval to monitor.

Wear

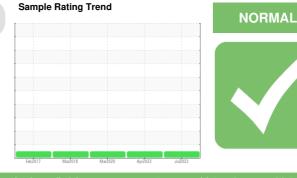
All component wear rates are normal.

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.

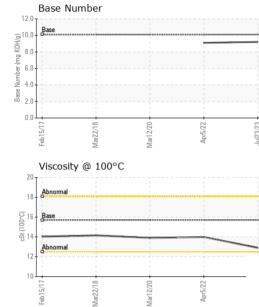




SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0637214	WC0448677	WC0385831
Sample Date		Client Info		23 Jul 2023	05 Apr 2022	12 Mar 2020
Machine Age	hrs	Client Info		0	274	236
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	2	3
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	1	1	<1
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm		>15	<1	<1	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 316	current 63	history1 164	history2 104
	ppm ppm					
Boron		ASTM D5185m	316	63	164	104
Boron Barium	ppm	ASTM D5185m ASTM D5185m	316 0.0	63 <1	164 0 38 <1	104 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0	63 <1 55	164 0 38	104 0 8 <1 677
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2	63 <1 55 <1	164 0 38 <1	104 0 8 <1 677 1418
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064	63 <1 55 <1 800 1517 1117	164 0 38 <1 51 2418 1137	104 0 8 <1 677 1418 984
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160	63 <1 55 <1 800 1517 1117 1348	164 0 38 <1 51 2418 1137 1235	104 0 8 <1 677 1418 984 1086
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	316 0.0 1.2 24 2292 1064 1160 4996	63 <1 55 <1 800 1517 1117	164 0 38 <1 51 2418 1137	104 0 8 <1 677 1418 984 1086 3184
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	316 0.0 1.2 24 2292 1064 1160 4996	63 <1 55 <1 800 1517 1117 1348 4325 current	164 0 38 <1 51 2418 1137 1235 3576 history1	104 0 8 <1 677 1418 984 1086 3184 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	316 0.0 1.2 24 2292 1064 1160 4996	63 <1 55 <1 800 1517 1117 1348 4325 current 5	164 0 38 <1 51 2418 1137 1235 3576 history1 12	104 0 8 <1 677 1418 984 1086 3184 history2 7
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	316 0.0 1.2 24 2292 1064 1160 4996 limit/base	63 <1 55 <1 800 1517 1117 1348 4325 current 5 2	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2	104 0 8 <1 677 1418 984 1086 3184 history2 7 3
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20	63 <1 55 <1 800 1517 1117 1348 4325 current 5	164 0 38 <1 51 2418 1137 1235 3576 history1 12	104 0 8 <1 677 1418 984 1086 3184 history2 7
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	316 0.0 1.2 24 2292 1064 1160 4996 Imit/base >25 >20 Imit/base	63 <1 55 <1 800 1517 1117 1348 4325 current 5 2 2 2 2	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2 5 5 history1	104 0 8 <1 677 1418 984 1086 3184 history2 7 3 3 3
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	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20 limit/base >3	63 <1 55 <1 800 1517 1117 1348 4325 <u>current</u> 5 2 2 2 2 <u>current</u> 0.1	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2 5 5 history1 0.1	104 0 8 <1 677 1418 984 1086 3184 history2 7 3 3 3 history2 0.1
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	316 0.0 1.2 24 2292 1064 1160 4996 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	63 <1 55 <1 800 1517 1117 1348 4325 current 5 2 2 2 2 current 0.1 6.4	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2 5 history1 0.1 8.0	104 0 8 <1 677 1418 984 1086 3184 history2 7 3 3 3 history2 0.1 6.4
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	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20 limit/base >3	63 <1 55 <1 800 1517 1117 1348 4325 <u>current</u> 5 2 2 2 2 <u>current</u> 0.1	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2 5 5 history1 0.1	104 0 8 <1 677 1418 984 1086 3184 history2 7 3 3 3 history2 0.1
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	316 0.0 1.2 24 2292 1064 1160 4996 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	63 <1 55 <1 800 1517 1117 1348 4325 current 5 2 2 2 2 current 0.1 6.4	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2 5 history1 0.1 8.0	104 0 8 <1 677 1418 984 1086 3184 history2 7 3 3 3 history2 0.1 6.4
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	316 0.0 1.2 24 2292 1064 1160 4996 Imit/base >25 >20 Imit/base >3 >20 >30	63 <1 55 <1 800 1517 1117 1348 4325 current 5 2 2 2 2 current 0.1 6.4 17.7	164 0 38 <1 51 2418 1137 1235 3576 history1 12 2 5 <u>history1</u> 0.1 8.0 20.4	104 0 8 <1 677 1418 984 1086 3184 history2 7 3 3 3 history2 0.1 6.4 18.4



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Certificate L2367

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