

OIL ANALYSIS REPORT

Area [W116497] **GENERAC RALEIGH WADE** Component

Diesel Engine

SHELL ROTELLA T 15W40 (5 GAL)

Recommendation

Resample at the next service interval to monitor.

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.

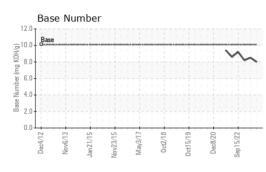


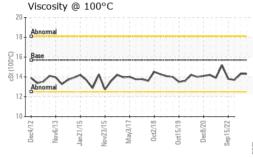
Sample Rating Trend

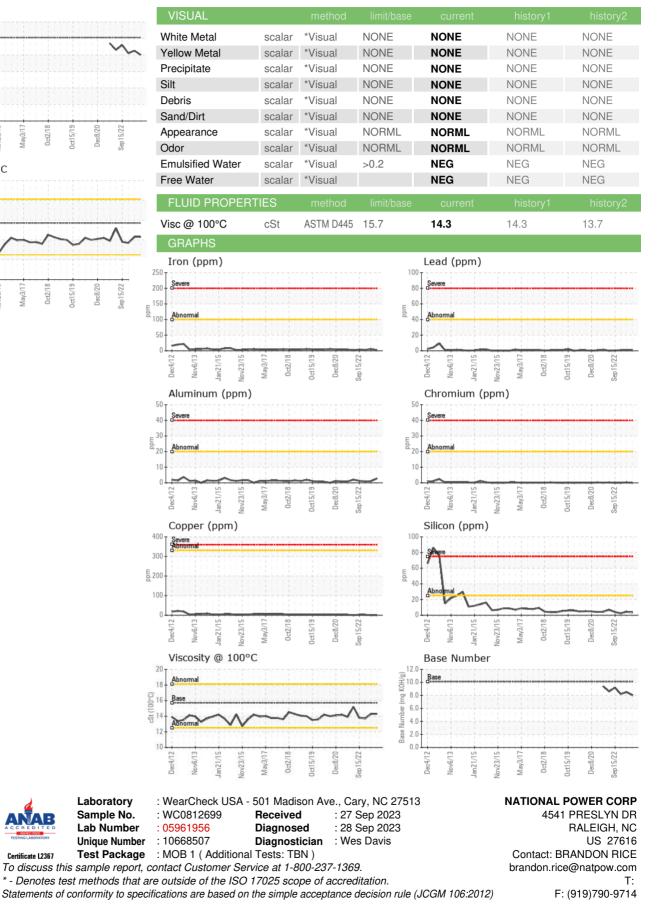
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0812699	WC0812714	WC0682955
Sample Date		Client Info		12 Sep 2023	06 Jun 2023	30 Nov 2022
Machine Age	hrs	Client Info		384	376	345
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	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	2	5	3
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		21	20	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	1	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 316	current 106	history1 110	history2 90
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	316	106	110 0 57	90
Boron Barium	ppm	ASTM D5185m ASTM D5185m	316 0.0	106 0	110 0	90 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0	106 0 59	110 0 57	90 0 14
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2	106 0 59 0	110 0 57 <1	90 0 14 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064	106 0 59 0 197	110 0 57 <1 247	90 0 14 <1 511
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	106 0 59 0 197 2041	110 0 57 <1 247 2107	90 0 14 <1 511 1547
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	316 0.0 1.2 24 2292 1064	106 0 59 0 197 2041 1026	110 0 57 <1 247 2107 1038	90 0 14 <1 511 1547 896
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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	106 0 59 0 197 2041 1026 1236	110 0 57 <1 247 2107 1038 1240	90 0 14 <1 511 1547 896 1068
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	106 0 59 0 197 2041 1026 1236 4143	110 0 57 <1 247 2107 1038 1240 4608	90 0 14 <1 511 1547 896 1068 3959
Boron Barium Molybdenum Maganese 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	316 0.0 1.2 24 2292 1064 1160 4996	106 0 59 0 197 2041 1026 1236 4143 current	110 0 57 <1 247 2107 1038 1240 4608 history1	90 0 14 <1 511 1547 896 1068 3959 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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	106 0 59 0 197 2041 1026 1236 4143 current 4	110 0 57 <1 247 2107 1038 1240 4608 history1 4	90 0 14 <1 511 1547 896 1068 3959 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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 >25	106 0 59 0 197 2041 1026 1236 4143 <u>current</u> 4 1	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2	90 0 14 <1 511 1547 896 1068 3959 history2 2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 <i>limit/base</i> >25 >20	106 0 59 0 197 2041 1026 1236 4143 current 4 1 1	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2 1	90 0 14 <1 511 1547 896 1068 3959 history2 2 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	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	106 0 59 0 197 2041 1026 1236 4143 current 4 1 1 1	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2 1 1	90 0 14 511 1547 896 1068 3959 history2 2 4 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20 limit/base >3	106 0 59 0 197 2041 1026 1236 4143 <i>current</i> 4 1 1 1 <i>current</i> 0.1	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2 1 4 2 1 1 <i>history1</i> 0.1	90 0 14 <1511 1547 896 1068 3959 history2 2 2 4 4 4 5 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>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	106 0 59 0 197 2041 1026 1236 4143 <i>current</i> 4 1 1 1 <i>current</i> 0.1 6.8	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2 1 4 2 1 history1 0.1 7.2	90 0 14 <1 511 1547 896 1068 3959 history2 2 2 4 4 4 history2 0.1 7.1
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	106 0 59 0 197 2041 1026 1236 4143 current 4 1 1 1 current 0.1 6.8 17.6	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2 1 1 <u>history1</u> 0.1 7.2 17.9	90 0 14 <1 511 1547 896 1068 3959 history2 2 4 4 4 history2 0.1 7.1 21.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	316 0.0 1.2 24 2292 1064 1160 4996 <i>limit/base</i> >25 20 20 <i>limit/base</i> >3 >20 >30	106 0 59 0 197 2041 1026 1236 4143 <i>current</i> 4 1 1 <i>current</i> 0.1 6.8 17.6	110 0 57 <1 247 2107 1038 1240 4608 history1 4 2 1 4 2 1 1 0.1 7.2 17.9 history1	90 0 14 <1 511 1547 896 1068 3959 history2 2 4 4 4 history2 0.1 7.1 21.9 history2



OIL ANALYSIS REPORT







Certificate L2367

Laboratory

Sample No.

Lab Number

Unique Number

Contact/Location: BRANDON RICE - NATRAL