

WEAR CONTAMINATION FLUID CONDITION

ABNORMAL ATTENTION NORMAL

Mobile Fleet

8038 8038

Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
TEOOMINE ROATION	Sample Number	OOW	Client Info	2271071	WC0919090	WC0861845	WC0867086
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.	Sample Date		Client Info		17 Apr 2024	14 Feb 2024	05 Dec 2023
	Machine Age	hrs	Client Info		5288	4875	4599
	Oil Age	hrs	Client Info		381	255	341
	Filter Age	hrs	Client Info		381	255	341
	Oil Changed		Client Info		Changed	Not Changd	Changed
	Filter Changed		Client Info		Changed	Not Changd	Changed
	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	26	14	24
	Chromium	ppm	ASTM D5185m	>20	3	2	4
The aluminum level is abnormal. All other component wear rates are normal.	Nickel	ppm	ASTM D5185m	>4	0	0	0
	Titanium	ppm	ASTM D5185m		0	0	0
	Silver	ppm	ASTM D5185m	>3	0	0	0
	Aluminum	ppm	ASTM D5185m	>20	<u> </u>	13	20
	Lead	ppm	ASTM D5185m		0	0	0
	Copper	ppm	ASTM D5185m		4	3	5
	Tin	ppm	ASTM D5185m	>15	<1	0	0
	Vanadium	ppm	ASTM D5185m		0	0	<1
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m		9	6	8
	Potassium	ppm	ASTM D5185m	>20	12	6	16
There is a moderate amount of particulates present in the oil.	Fuel		WC Method		<1.0	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844		0.7	0.4	0.6
	Nitration	Abs/cm	*ASTM D7624		9.9	7.2	9.3
	Sulfation	Abs/.1mm			22.7	21.6	22.2
	Particles >4µm		ASTM D7647		14589	18487	27613
	Particles >6µm		ASTM D7647		7948	10071	15042
	Particles >14µm Particles >21µm		ASTM D7647 ASTM D7647		1353 456	▲ 1714 ▲ 577	△ 2560 △ 862
	Particles >21µm		ASTM D7647		70	▲ 89	▲ 133
	Particles >71µm		ASTM D7647		7	9	▲ 14
	Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/20/18	<u>^</u> 21/21/18	<u>22/21/19</u>
	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		*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m		3	2	2
TEGID CONDITION	Boron	ppm	ASTM D5185m		26	41	24
The BN result indicates that there is suitable alkalinity remaining in the	Barium	ppm	ASTM D5185m		0	0	0
oil. The condition of the oil is suitable for further service.	Molybdenum	ppm	ASTM D5185m		51	47	52
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m		515	504	526
	Calcium	ppm	ASTM D5185m		1764	1648	1719
	Phosphorus	ppm	ASTM D5185m		794	737	766
	Zinc	ppm	ASTM D5185m		927	885	945
	Sulfur	ppm	ASTM D5185m		2729	2346	2467
	Oxidation	Abs/.1mm	*ASTM D7414	>25	21.8	19.2	21.0
	Dogo Number (DNI)	110111	ACTM DOOGS	40 =	0.0	0.2	0.6

Base Number (BN) mg KOH/g ASTM D2896 10.5

ASTM D445 11.9

Visc @ 100°C cSt

9.3

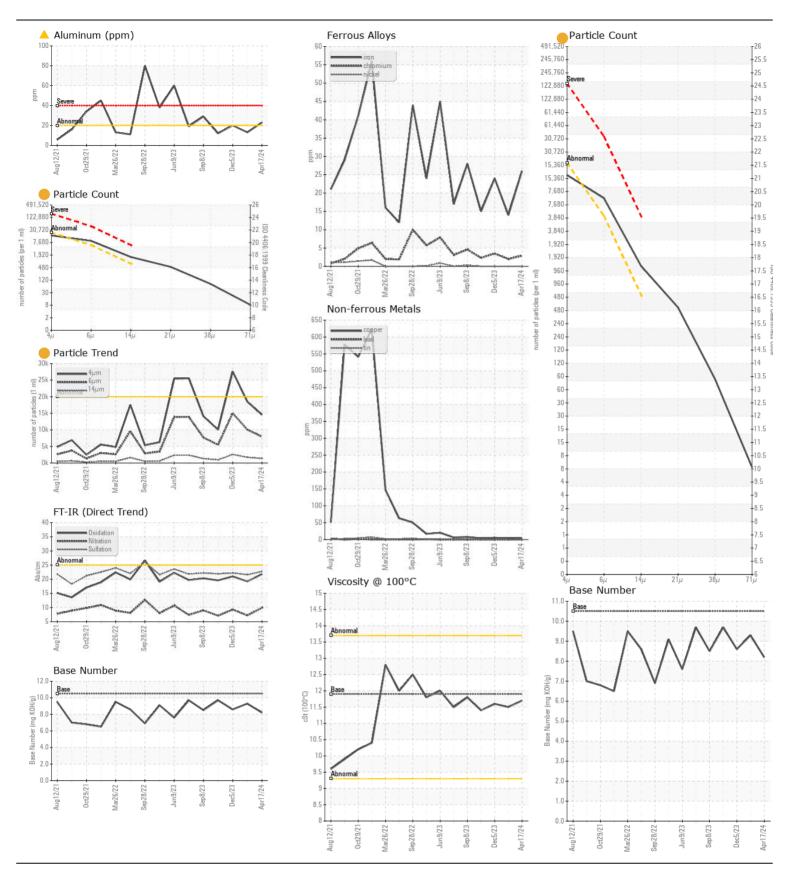
11.5

8.2

11.7

8.6

11.6





Certificate L2367

Report Id: CARBUTNC [WUSCAR] 06156804 (Generated: 04/24/2024 18:31:06) Rev: 1

Laboratory Sample No. Lab Number

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0919090 : 06156804

Tested Unique Number: 10992227 Diagnosed

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Received

: 22 Apr 2024

: 24 Apr 2024

: 24 Apr 2024 - Sean Felton

Test Package : CONST (Additional Tests: PrtCount, 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. **CAROLINA SUNROCK**

PO BOX 25 BUTNER, NC US 27509

Contact: Leigh Dennis rdennis@thesunrockgroup.com

T: (919)575-4505 F: (919)575-0162