

OIL ANALYSIS REPORT

Sample Rating Trend



Area Mobile Fleet 3009 3009

Right Final Drive

MOBIL DELVAC 1 SYNTHETIC GEAR SAE 75W90 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WCMCF69811	WCMCF54117	
Sample Date		Client Info		12 Feb 2019	31 May 2018	
Machine Age	hrs	Client Info		2650	1188	
Oil Age	hrs	Client Info		2650	1188	
Oil Changed		Client Info		Changed	Not Changd	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	88	36	
Chromium	ppm	ASTM D5185m	>10	7	2	
Nickel	ppm	ASTM D5185m		<1	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m		0	0	
Aluminum	ppm		>25	<1	<1	
Lead	ppm	ASTM D5185m	>25	0	<1	
Copper	ppm	ASTM D5185m	>50	4	2	
Tin	ppm	ASTM D5185m	>10	0	0	
Antimony	ppm	ASTM D5185m ASTM D5185m		0	4	
Vanadium Cadmium	ppm ppm	ASTM D5185m ASTM D5185m		0	0	
	pp			Ū		_
ADDITIVES	pp	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 2	history2
ADDITIVES Boron Barium		method ASTM D5185m ASTM D5185m	limit/base	current 1 <1	history1 2 1	
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0	history1 2 1 <1	
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0 5	history1 2 1 <1 2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0 5 <1	history1 2 1 <1 2 3	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0 5 <1 53	history1 2 1 <1 2 2 3 27	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0 5 <1 53 258	history1 2 1 <1 2 2 3 27 208	
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	current 1 <1 0 5 <1 53 258 14	history1 2 1 <1 2 3 27 208 11	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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		Current 1 1 0 5 </1 53 258 14 17337</th <th>history1 2 1 <1 2 3 27 208 11 8789</th> <th></th>	history1 2 1 <1 2 3 27 208 11 8789	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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 ASTM D5185m	limit/base	current 1 <1 0 5 <1 53 258 14 17337 current	history1 2 1 <1 2 3 27 208 11 8789 history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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 ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0 5 <1 53 258 14 17337 current 4	history1 2 1 <1 2 3 27 208 11 8789 history1 3	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 1 <1 0 5 <1 53 258 14 17337 current 4 23	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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 ASTM D5185m ASTM D5185m	limit/base	current 1 <1 0 5 <1 53 258 14 17337 current 4	history1 2 1 <1 2 3 27 208 11 8789 history1 3	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 1 <1 0 5 <1 53 258 14 17337 current 4 23	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >75 >20	current 1 <1 0 5 <1 53 258 14 17337 current 4 23 3	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14 2	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >75 >20 limit/base >20000	current 1 <1 0 5 <1 53 258 14 17337 current 4 23 3 current	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14 2 history1	 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >75 >20 limit/base >20000	current 1 <1 0 5 <1 53 258 14 17337 current 4 23 3 current 743	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14 2 history1 1 14 2 176566	 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base >75 >20 limit/base >20000 >5000 >5000 >640	current 1 <1 0 5 <1 53 258 14 17337 current 4 23 3 current 743 405	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14 2 history1 3 14 2 history1 6 68270	 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >75 >20 limit/base >20000 >5000 >5000 >640 >160 >40	current 1 <1 0 5 <1 53 258 14 17337 current 4 23 3 current 743 405 69	history1 2 1 <1 2 3 27 208 11 8789 history1 3 14 2 history1 3 14 2 history1 68270 2609	 history2 history2 history2

Oil Cleanliness

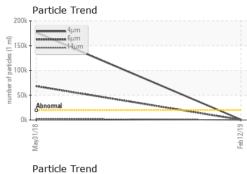
▲ 25/23/19

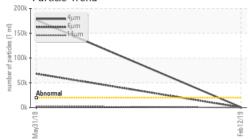
17/16/13

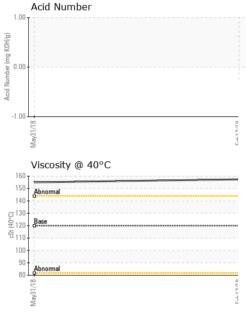
ISO 4406 (c) >21/19/16



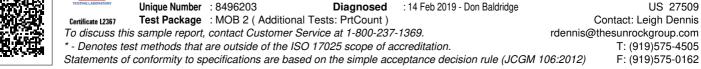
OIL ANALYSIS REPORT







VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	120	157.4	155.0	
SAMPLE IMAGES	\$	method	limit/base	current	history1	history2
Color						no image
						no image
Bottom				1 a	A Star	no image
				28	1 981	
GRAPHS						
Ferrous Alloys				Particle Coun	t	
T			491,520	L		T ²
iron chromium			122,880	-		-2
nickel						
			30,720	Abnormal		-2
			7,680		· ·	-2
			Feb 12/19 (per 1 ml)			
May31/18			21 ger 1,920 s (per 1	Į		+1
Non-ferrous Metals	5		101 HB 480			
copper			Feb.12/19- 1000 fee.1 mll			
essesses lead			120	Ţ		+1
			30	-		
			8			1
			Feb12/19			
May31/18			0 년			
Viscosity @ 40°C			1	نۇ مۇ Acid Number	14μ 21μ	38µ 71µ
Abnormal			(B) 日1.00			
•			Acid Number (mg KOH/g)			
Base						
+			Num			
Abnormal			-1.00			
May31/18			Feb12/19	May31/18		
May			Feb1	May		
earCheck USA - 501					CAROLI	NA SUNROO
	Deeel	ived 10	3 Feb 2019			PO BOX
CMCF69811 <mark>I649703</mark>	Recei Teste		Feb 2019			BUTNER, I



Report Id: CARBUTNC [WUSCAR] 04649703 (Generated: 04/15/2024 11:06:48) Rev: 1

Laboratory Sample No. Lab Number

Contact/Location: Leigh Dennis - CARBUTNC

Page 2 of 2

T: (919)575-4505

F: (919)575-0162