

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2108** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

DIAGNOSIS

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.

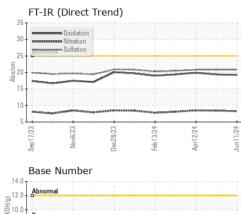
Fluid Condition

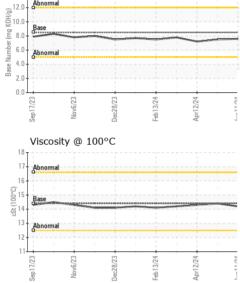
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info WC0897836 WC0897836 WC0897838 WC0897838 Sample Date Client Info 11 Jun 2024 13 May 2024 12 Apr 2024 Machine Age mis Client Info 0 0 0 Old Age mis Client Info 0 0 0 Old Changed Client Info Changed N/A Changed Sample Status Imit Mode Imit Mode NORMAL NORMAL NORMAL CONTAMINATION method Imit Mode Imit Mode	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age mils Client Info 0 179849 174033 Oil Age mils Client Info 0 0 0 Oil Age mils Client Info 0 0 0 Oil Age mils Client Info 0 0 0 Sample Status Client Info O ANGMAL NORMAL NORMAL CONTAMINATION method Imit/base current History1 History2 Fuel WC Method >5 <1.0	Sample Number		Client Info		WC0946396	WC0897836	WC0897928
Oil Age mis Client Info 0 0 0 Oil Changed Client Info Changed NA Changed Sample Status Imitbase current NoRMAL NORMAL CONTAMINATION method imitbase current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >40 0 <1 0 Nickel ppm ASTM D5185m >20 1 2 <1 0 Silver ppm ASTM D5185m >30 <1 0 0 1 0 Cadmium ppm ASTM D5185m >40 0 <1 0 0 1 <	Sample Date		Client Info		11 Jun 2024	13 May 2024	12 Apr 2024
Oli Changed Client Info Changed NORMAL N/A Changed NORMAL Sample Status Imit base current History1 NormAL CONTAMINATION Weithed >5 <1.0 <1.0 <1.0 Fuel WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM D5185m >100 7 6 4 Chromium ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >30 0 <1 0 Copper ppm ASTM D5185m >30 1 <1 1 Lead ppm ASTM D5185m >30 1 0 0 Copper ppm	Machine Age	mls	Client Info		0	179849	174033
Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >20 0 <1 0 Nickel ppm ASTM 05185m >20 0 <1 0 Aluminum ppm ASTM 05185m >20 1 2 <1 Lead ppm ASTM 05185m >20 1 0 0 Vanadium ppm ASTM 05185m 21 1 <1 1 Vanadium ppm ASTM 05185m 250 11 0 0 Aso	Oil Age	mls	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >20 0 <1 0 Silver ppm ASTM D5185m >20 1 2 <1 0 Copper ppm ASTM D5185m >20 1 2 <1 0 Cadmium ppm ASTM D5185m >20 1 0 0 Cadmium ppm ASTM D5185m >30 <1 0 0 AstM D5185m 15 0 1 0 0	Oil Changed		Client Info		Changed	N/A	Changed
Fuel WC Method >5 <1.0	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imit/base current history1 history2 Iron ppm ASTM D5185m >100 7 6 4 Chromium ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >4 0 <1 0 Silver ppm ASTM D5185m >3 0 <1 0 Silver ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >20 1 2 <1 Copper ppm ASTM D5185m >30 <1 1 <1 Tin ppm ASTM D5185m >30 <1 1 <1 Copper ppm ASTM D5185m >10 0 <1 0 Vanadium ppm ASTM D5185m 250 11 0	CONTAMINATION	۷	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG NEG WARA METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >4 0 <1 0 Aluminum ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >15 0 1 0 Vanadium ppm ASTM D5185m 15 0 1 0 Vanadium ppm ASTM D5185m 15 0 1 0 Vanadium ppm ASTM D5185m 100 61 62 57 Managanese ppm ASTM D5185m 100 61 1 0	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 7 6 4 Chromium ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >4 0 <1 0 Silver ppm ASTM D5185m >3 0 <1 0 Aluminum ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >20 1 0 Copper ppm ASTM D5185m >20 1 2 <1 <1 Copper ppm ASTM D5185m >30 <1 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron ppm ASTM D5185m >100 7 6 4 Chromium ppm ASTM D5185m >20 0 <1	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >4 0 <1	Iron	ppm	ASTM D5185m	>100	7	6	4
Nickel ppm ASTM D5185m >4 0 <1	Chromium		ASTM D5185m	>20	0	<1	0
Silver ppm ASTM D5185m >3 0 <1	Nickel	ppm	ASTM D5185m	>4	0	<1	0
Aluminum ppm ASTM D5185m >20 1 2 <1	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead ppm ASTM D5185m >40 0 <1	Silver	ppm	ASTM D5185m	>3	0	<1	0
Copper ppm ASTM D5185m >330 <1	Aluminum	ppm	ASTM D5185m	>20	1	2	<1
Tin ppm ASTM D5185m >15 0 1 0 Vanadium ppm ASTM D5185m <15	Lead	ppm	ASTM D5185m	>40	0	<1	0
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>330	<1	1	<1
Cadmium ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	0	1	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 11 0 0 Barium ppm ASTM D5185m 10 0 0 0 Malganese ppm ASTM D5185m 100 61 62 57 Magnesium ppm ASTM D5185m 100 61 62 57 Calcium ppm ASTM D5185m 100 61 62 57 Magnesium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 3000 1170 1131 1021 Phosphorus ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 25 6 9 6 Sodium ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >20	Vanadium	ppm	ASTM D5185m		<1	<1	<1
Boron ppm ASTM D5185m 250 11 0 0 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 61 62 57 Manganese ppm ASTM D5185m 100 61 62 57 Magnesium ppm ASTM D5185m 100 61 62 57 Magnesium ppm ASTM D5185m 100 61 62 57 Calcium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 150 1057 1109 943 Zinc ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 23 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 1 <th>Cadmium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>0</th> <th><1</th> <th>0</th>	Cadmium	ppm	ASTM D5185m		0	<1	0
Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 61 62 57 Manganese ppm ASTM D5185m 100 61 62 57 Magnesium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 3000 1170 1131 1021 Phosphorus ppm ASTM D5185m 1360 1367 1292 1148 Sulfur ppm ASTM D5185m 14250 3695 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/bas							
Molybdenum ppm ASTM D5185m 100 61 62 57 Manganese ppm ASTM D5185m < 1020 993 917 Calcium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 3000 1170 1131 1021 Phosphorus ppm ASTM D5185m 1057 1109 943 Zinc ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 4250 3695 3560 3310 CONTAMINANTS method imit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >20 1 3 0 INFRA-RED method imit/base current history1 history2 Soot % % *ASTM D7624 >20	ADDITIVES		method	limit/base	current	history1	history2
Manganese ppm ASTM D5185m <1		ppm					
Magnesium ppm ASTM D5185m 450 1020 993 917 Calcium ppm ASTM D5185m 3000 1170 1131 1021 Phosphorus ppm ASTM D5185m 3000 1170 1131 1021 Phosphorus ppm ASTM D5185m 1150 1057 1109 943 Zinc ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 4250 3695 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/.1mm *ASTM D7	Boron		ASTM D5185m	250	11	0	0
Calcium ppm ASTM D5185m 3000 1170 1131 1021 Phosphorus ppm ASTM D5185m 1150 1057 1109 943 Zinc ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 4250 3695 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/.rm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.lmm<*ASTM D7415 >30 <th>Boron Barium</th> <th>ppm</th> <th>ASTM D5185m ASTM D5185m</th> <th>250 10</th> <th>11 0</th> <th>0</th> <th>0</th>	Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	11 0	0	0
Phosphorus ppm ASTM D5185m 1150 1057 1109 943 Zinc ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 4250 3695 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >3 0.2 0.2 0.2 Nitration Abs/.mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base<	Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	11 0 61	0 0 62	0 0 57
Zinc ppm ASTM D5185m 1350 1367 1292 1148 Sulfur ppm ASTM D5185m 4250 3695 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >158 2 3 3 Potassium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.imm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.imm *ASTM D7414	Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	11 0 61 <1	0 0 62 <1	0 0 57 0
Sulfur ppm ASTM D5185m 4250 3695 3560 3310 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Soot % % *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.mm *ASTM D7414 >25 19.2 19.4 19.9	Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	11 0 61 <1 1020	0 0 62 <1 993	0 0 57 0 917
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Silicon ppm ASTM D5185m >25 6 9 6 Sodium ppm ASTM D5185m >158 2 3 3 Potassium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.tmm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 19.2 19.4 19.9	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	250 10 100 450 3000 1150	11 0 61 <1 1020 1170 1057	0 0 62 <1 993 1131 1109	0 0 57 0 917 1021 943
Sodium ppm ASTM D5185m >158 2 3 3 Potassium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	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	250 10 100 450 3000 1150 1350	11 0 61 <1 1020 1170 1057 1367	0 0 62 <1 993 1131 1109 1292	0 0 57 0 917 1021 943 1148
Potassium ppm ASTM D5185m >20 1 3 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm 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	11 0 61 <1 1020 1170 1057 1367 3695	0 0 62 <1 993 1131 1109 1292 3560	0 0 57 0 917 1021 943 1148 3310
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	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	250 10 100 450 3000 1150 1350 4250	11 0 61 <1 1020 1170 1057 1367 3695 current	0 0 62 <1 993 1131 1109 1292 3560 history1	0 0 57 0 917 1021 943 1148 3310 history2 6
Soot % % *ASTM D7844 >3 0.2 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	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 Limit/base	11 0 61 <1 1020 1170 1057 1367 3695 current 6	0 0 62 <1 993 1131 1109 1292 3560 history1 9	0 0 57 0 917 1021 943 1148 3310 history2 6
Nitration Abs/cm *ASTM D7624 >20 8.3 8.4 8.5 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	11 0 61 <1 1020 1170 1057 1367 3695 <u>current</u> 6 2	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3	0 0 57 0 917 1021 943 1148 3310 history2 6 3
Sulfation Abs/.1mm *ASTM D7415 >30 20.8 20.8 20.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	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	11 0 61 <1 1020 1170 1057 1367 3695 current 6 2 1	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3 3 3	0 0 57 0 917 1021 943 1148 3310 history2 6 3 0
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	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 limit/base >25 >158 >20	11 0 61 <1 1020 1170 1057 1367 3695 <u>current</u> 6 2 1 1	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3 3 3 3	0 0 57 0 917 1021 943 1148 3310 history2 6 3 0 0 history2
Oxidation Abs/.1mm *ASTM D7414 >25 19.2 19.4 19.9	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3	11 0 61 <1 1020 1170 1057 1367 3695 <u>current</u> 6 2 1 1 <u>current</u> 0.2	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3 3 3 1 1 202	0 0 57 0 917 1021 943 1148 3310 history2 6 3 0 history2 0.2
	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 Iimit/base >25 >158 >20 Iimit/base >3 >20	11 0 61 <1 1020 1170 1057 1367 3695 <i>current</i> 6 2 1 <i>current</i> 0.2 8.3	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3 3 3 3 history1 0.2 8.4	0 0 57 0 917 1021 943 1148 3310 history2 6 3 0 history2 0.2 8.5
Base Number (BN) mg KOH/g ASTM D2896 8.5 7.6 7.5 7.2	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 Iinit/base >25 >158 >20 Iinit/base >3 >20	11 0 61 <1 1020 1170 1057 1367 3695 <u>current</u> 6 2 1 1 <u>current</u> 0.2 8.3 20.8	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3 3 3 history1 0.2 8.4 20.8	0 0 57 0 917 1021 943 1148 3310 history2 6 3 0 history2 0.2 8.5 20.8
	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 D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >30	11 0 61 <1 1020 1170 1057 1367 3695 Current 6 2 1 Current 0.2 8.3 20.8 Current	0 0 62 <1 993 1131 1109 1292 3560 history1 9 3 3 3 0 0.2 8.4 20.8 history1	0 0 57 0 917 1021 943 1148 3310 history2 6 3 0 history2 0.2 8.5 20.8 history2



OIL ANALYSIS REPORT





	VISUAL	me	thod limit/ba	se current	histor	'y1	history2	
	White Metal		ual NONE	NONE	NONE	I	NONE	
	Yellow Metal	scalar *Visu	ual NONE	IONE NONE			NONE	
	Precipitate	scalar *Visu	ual NONE	NONE	NONE		NONE	
	Silt	scalar *Visu	ual NONE	NONE	NONE		NONE	
	Debris	scalar *Visu		NONE	NONE		NONE	
	Sand/Dirt	scalar *Visu	ual NONE	NONE	NONE		NONE	
Apr12/24 -	Appearance	scalar *Visu		NORML	NORM		NORML	
April. Jun1	Odor	scalar *Visu		NORML	NORM	L	NORML	
	Emulsified Water	scalar *Visu	ual >0.2	NEG	NEG		NEG	
	Free Water	scalar *Visu		NEG	NEG		NEG	
	FLUID PROPER	ΓIES me	thod limit/ba	se current	histor	'y1	history2	
	Visc @ 100°C	cSt ASTN	/I D445 14.4	14.2	14.4		14.3	
	GRAPHS							
	Iron (ppm)			Lead (ppm)				
24	250 200 Severe			80 Severe				
Apr12/24	150			60				
	Abnormal			40 Abnormal				
	50 -			20-				
			44			+	4 4	
	Sep 17/23 Nov6/23	Feb13/24	Apr12/24 Jun11/24	Sep17/23 Nov6/23	Dec28/23	Feb13/24	Apr12/24 Jun11/24	
		a a	Ap		_	꼰	Ap	
	Aluminum (ppm)			Chromium (p	opm)			
	40 - Severe			40 - Severe				
	10			20				
- 1/24 -	a 20 Abnormal			20 Abnormal				
Apr12/24	10-			10-				
	0			0				
	Sep 17/23 Nov6/23	Feb 13/24	Apr12/24 Jun11/24	Sep17/23 Nov6/23	Dec28/23	Feb 13/24	Apr12/24	
	Sep 1	La La	Apri Juni	Sep	Deci	Feb	Apri Juni	
	Copper (ppm)			Silicon (ppm))			
	400 Severe			80 Severe				
	300			60 -				
	튭 200 -			톱 40 -				
	100-			Abnormal				
	0			0				
		3/24	2/24	ep 17/23	8/23	3/24 -	2/24	
	Sep17/23 Nov6/23	Feb13/24	Apr12/24 Jun11/24	Sep17/23 Nov6/23	Dec28/23	Feb 13/24	Apr12/24 Jun11/24	
	Viscosity @ 100°C	2		Base Numbe	r			
	Abnormal		19/1	Abnormal				
	16-		KO	Abnormal Base Abnormal Abnormal				
	은14- 1			Abnormal				
	경 12 -			5.0 - Abnormal				
	10			0.0				
	Sep17/23 -	Feb13/24 -	Apr12/24 - Jun11/24 -	Sep 17/23 -	Dec28/23 -	Feb 13/24 -	Apr12/24 - Jun11/24 -	
	Sep1 Nov	Feb1	Apr1 Jun1	Sep1 Nov	Dec2	Feb1	Apr1 Jun1	
Laboratory Sample No.	: WearCheck USA - 50 : WC0946396		GO DURHAM - RAPT 1903 FAYETTEVILLE ST					
	: 06219124	Received Tested	: 24 Jun 2024 : 25 Jun 2024		1903		IRHAM, NC	
	: 11097321	Diagnosed				50	US 27701	
	: MOB 1 (Additional Te				Cont	act: Robe	ert losiniecki	
		Delessie Less		a dear al a construction a second				



Test Package : MOB 1 (Additional Tests: TBN) Certificate 12367 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)

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