

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **3255R** Component **Diesel Engine** Fluid **MOBIL 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

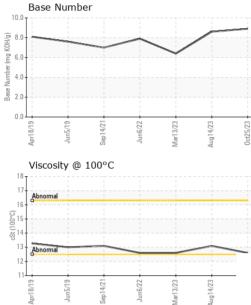
Fluid Condition

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

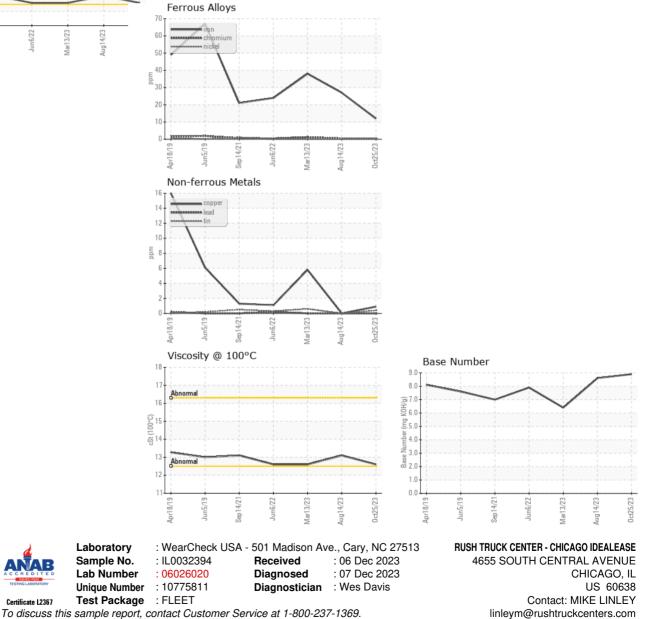
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0032394	IL0032337	IL0028915
Sample Date		Client Info		25 Oct 2023	14 Aug 2023	13 Mar 2023
Machine Age	mls	Client Info		283947	281528	272269
Oil Age	mls	Client Info		0	10241	15101
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٨	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
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12	27	38
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	6
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	0	6
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 1	history1 5	history2 20
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	1	5	20
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	1 0	5 0	20 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1 0 59	5 0 61	20 0 48
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1 0 59 <1	5 0 61 <1	20 0 48 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1 0 59 <1 983	5 0 61 <1 1025	20 0 48 1 639
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1 0 59 <1 983 1044	5 0 61 <1 1025 1190	20 0 48 1 639 1460
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	limit/base	1 0 59 <1 983 1044 1037	5 0 61 <1 1025 1190 1092	20 0 48 1 639 1460 715
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1 0 59 <1 983 1044 1037 1264	5 0 61 <1 1025 1190 1092 1378	20 0 48 1 639 1460 715 972
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	limit/base	1 0 59 <1 983 1044 1037 1264 3030	5 0 61 <1 1025 1190 1092 1378 4109	20 0 48 1 639 1460 715 972 2620
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	limit/base	1 0 59 <1 983 1044 1037 1264 3030 current	5 0 61 <1 1025 1190 1092 1378 4109 history1	20 0 48 1 639 1460 715 972 2620 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 ASTM D5185m	limit/base >25 >118	1 0 59 <1 983 1044 1037 1264 3030 current 4	5 0 61 <1 1025 1190 1092 1378 4109 history1 4	20 0 48 1 639 1460 715 972 2620 history2 6
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	limit/base >25 >118	1 0 59 <1 983 1044 1037 1264 3030 current 4 3	5 0 61 <1 1025 1190 1092 1378 4109 history1 4 <1	20 0 48 1 639 1460 715 972 2620 history2 6 2
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	limit/base >25 >118 >20	1 0 59 <1 983 1044 1037 1264 3030 current 4 3 2	5 0 61 <1 1025 1190 1092 1378 4109 history1 4 <1 1	20 0 48 1 639 1460 715 972 2620 history2 6 2 2 6 2 6
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	limit/base >25 >118 >20 limit/base >3	1 0 59 <1 983 1044 1037 1264 3030 current 4 3 2 2 current	5 0 61 <1 1025 1190 1092 1378 4109 history1 4 <1 1 history1	20 0 48 1 639 1460 715 972 2620 history2 6 2 2 6 4 2 6 8 2 6 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 limit/base >3	1 0 59 <1 983 1044 1037 1264 3030 current 4 3 2 current 0.2	5 0 61 <1 1025 1190 1092 1378 4109 history1 4 <1 1 1 <i>history1</i> 0.5	20 0 48 1 639 1460 715 972 2620 history2 6 2 2 6 history2 0.6
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	limit/base >25 >118 >20 limit/base >3 >20	1 0 59 <1 983 1044 1037 1264 3030 <i>current</i> 4 3 2 <i>current</i> 0.2 7.6	5 0 61 <1025 1190 1092 1378 4109 history1 4 <1 1 history1 0.5 10.3	20 0 48 1 639 1460 715 972 2620 history2 6 2 2 6 2 6 4 8 history2 0.6 12.7
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	Imit/base >25 >118 >20 Imit/base >3 >20 >30	1 0 59 <1 983 1044 1037 1264 3030 <u>current</u> 4 3 2 <u>current</u> 0.2 7.6 21.0	5 0 61 <1 1025 1190 1092 1378 4109 history1 4 <1 1 1 history1 0.5 10.3 22.3	20 0 48 1 639 1460 715 972 2620 history2 6 2 2 6 bistory2 0.6 12.7 25.1
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 D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >118 >20 limit/base >3 >20 >30 limit/base	1 0 59 <1 983 1044 1037 1264 3030 current 4 3 2 current 0.2 7.6 21.0 current	5 0 61 <1025 1190 1092 1378 4109 history1 4 < <1 1 1 history1 0.5 10.3 22.3 history1	20 0 48 1 639 1460 715 972 2620 history2 6 2620 history2 6 2 6 2 6 2 6 12.7 25.1 history2



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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
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	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		12.6	13.1	12.6
GRAPHS						





* - 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)

Certificate L2367

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