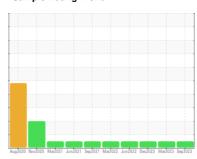


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
3549L
Component
Diesel Eng

Diesel Engine

MOBIL 15W40 (--- QTS)

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

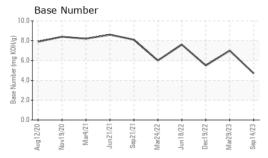
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

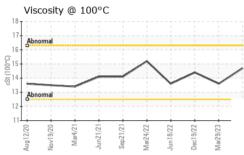
Sample Number	Augiti 20 Novi2020 Mar2021 Juni2021 Sopi2021 Mar2022 Juni2022 Doci2022 Mar2023 Sopi2023							
Sample Date	SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2	
Machine Age mls Client Info 154658 134970 125127 Oil Age mls Client Info 19312 9853 16128 Oil Changed NORMAL NORMAC NORMAC NORMAC	Sample Number		Client Info		IL0032320	IL0028907	IL0025858	
Oil Age mls Client Info 19312 9853 16128 Oil Changed	Sample Date		Client Info		14 Sep 2023	29 Mar 2023	19 Dec 2022	
Oil Changed Sample Status Client Info Changed NORMAL NORMAL Changed NORMAL NORMAL Changed NORMAL NORMAL Changed NORMAL NO	Machine Age	mls	Client Info		154658	134970	125127	
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2	Oil Age	mls	Client Info		19312	9853	16128	
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	Oil Changed		Client Info		Changed	Changed	Changed	
Fuel	Sample Status				NORMAL	NORMAL	NORMAL	
WEAR METALS	CONTAMINATION	V	method	limit/base	current	history1	history2	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 54 19 45 Chromium ppm ASTM D5185m >20 <1 0 1 Nickel ppm ASTM D5185m >20 <1 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 7 4 7 Lead ppm ASTM D5185m >20 7 4 7 Lead ppm ASTM D5185m >20 7 4 7 Lead ppm ASTM D5185m >330 1 0 2 Tin ppm ASTM D5185m 0 0 0 0 Cadenium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2<	Fuel		WC Method	>5	<1.0	<1.0	<1.0	
Iron	Glycol		WC Method		NEG	NEG	NEG	
Chromium ppm ASTM D5185m >20 <1	WEAR METALS		method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>100	54	19	45	
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 7 4 7 Lead ppm ASTM D5185m >40 0 0 <1	Chromium	ppm	ASTM D5185m	>20	<1	0	1	
Stiver	Nickel	ppm	ASTM D5185m	>4	0	0	<1	
Aluminum ppm ASTM D5185m >20 7 4 7 Lead ppm ASTM D5185m >40 0 0 <1 Copper ppm ASTM D5185m >330 1 0 2 Tin ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Maryamen ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 1111 940 86 60 54 Magnesium ppm ASTM D5185m 11158 969 935 1177 Phosphorus ppm ASTM D5185m 1167 1233<	Titanium	ppm	ASTM D5185m		0	0	0	
Lead ppm ASTM D5185m >40 0 0 <1	Silver	ppm	ASTM D5185m	>3	0	0	0	
Copper ppm ASTM D5185m >330 1 0 2 Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 10 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 68 60 54 Manganese ppm ASTM D5185m 1111 940 868 Calcium ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base	Aluminum	ppm	ASTM D5185m	>20	7	4	7	
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>40	0	0	<1	
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Copper	ppm	ASTM D5185m	>330	1	0	2	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 10 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 68 60 54 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 1111 940 868 Calcium ppm ASTM D5185m 1213 1120 1477 Phosphorus ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >20	Tin	ppm	ASTM D5185m	>15	<1	0	<1	
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 10 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 68 60 54 Manganese ppm ASTM D5185m -1 <1 <1 Magnesium ppm ASTM D5185m 1111 940 868 Calcium ppm ASTM D5185m 1213 1120 1477 Phosphorus ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base	Vanadium	ppm	ASTM D5185m		0	0	0	
Boron ppm ASTM D5185m 0 <1	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 68 60 54 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 1111 940 868 Calcium ppm ASTM D5185m 1213 1120 1477 Phosphorus ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 1467 1233 1304 Sulfur ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1 2 Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 68 60 54 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		0	<1	10	
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0	
Magnesium ppm ASTM D5185m 1111 940 868 Calcium ppm ASTM D5185m 1213 1120 1477 Phosphorus ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 1467 1233 1304 Sulfur ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1	<th>Molybdenum</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>68</th> <th>60</th> <th>54</th>	Molybdenum	ppm	ASTM D5185m		68	60	54
Calcium ppm ASTM D5185m 1213 1120 1477 Phosphorus ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 1467 1233 1304 Sulfur ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1 2 Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm "ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm "ASTM D7415 >30 31.9 21.2 29.8	Manganese	ppm	ASTM D5185m		<1	<1	<1	
Phosphorus ppm ASTM D5185m 1158 969 935 Zinc ppm ASTM D5185m 1467 1233 1304 Sulfur ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1 2 Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm "ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm "ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1<	Magnesium	ppm	ASTM D5185m		1111	940	868	
Zinc ppm ASTM D5185m 1467 1233 1304 Sulfur ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >11.8 1 <1 2 Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <	Calcium	ppm	ASTM D5185m		1213	1120	1477	
Sulfur ppm ASTM D5185m 3258 3087 3056 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1 2 Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Phosphorus	ppm	ASTM D5185m		1158	969	935	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1 2 Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Zinc	ppm	ASTM D5185m		1467	1233	1304	
Silicon ppm ASTM D5185m >25 5 3 6 Sodium ppm ASTM D5185m >118 1 <1	Sulfur	ppm	ASTM D5185m		3258	3087	3056	
Sodium ppm ASTM D5185m >118 1 <1	CONTAMINANTS	;	method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185m >20 4 3 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Silicon	ppm	ASTM D5185m	>25	5	3		
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6		ppm	ASTM D5185m	>118	1	<1		
Soot % % *ASTM D7844 >3 1.2 0.6 1.2 Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Potassium	ppm	ASTM D5185m	>20	4	3	7	
Nitration Abs/cm *ASTM D7624 >20 17.1 11.5 16.5 Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	INFRA-RED		method	limit/base	current	history1	history2	
Sulfation Abs/.1mm *ASTM D7415 >30 31.9 21.2 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Soot %	%	*ASTM D7844	>3	1.2	0.6	1.2	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Nitration	Abs/cm	*ASTM D7624	>20	17.1		16.5	
Oxidation Abs/.1mm *ASTM D7414 >25 34.5 19.8 31.6	Sulfation	Abs/.1mm	*ASTM D7415	>30	31.9	21.2	29.8	
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2	
Base Number (BN) mg KOH/g ASTM D2896 4.7 7.0 5.5	Oxidation	Abs/.1mm	*ASTM D7414	>25	34.5	19.8	31.6	
	Base Number (BN)	mg KOH/g	ASTM D2896		4.7	7.0	5.5	

Contact/Location: MIKE LINLEY - IDECHIIL



OIL ANALYSIS REPORT

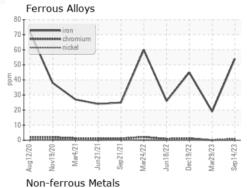


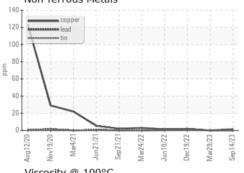


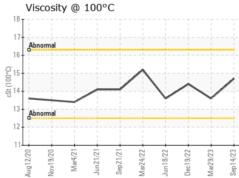
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

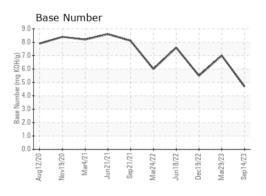
FLUID PROPERTIES		method			history2	
Visc @ 100°C	cSt	ASTM D445	14.7	13.6	14.4	

GRAPHS













Certificate L2367

Laboratory

Sample No. Lab Number **Unique Number** Test Package : FLEET

: IL0032320 : 05962008 : 10668559

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 27 Sep 2023 : 28 Sep 2023 Diagnosed

Diagnostician : Don Baldridge

RUSH TRUCK CENTER - CHICAGO IDEALEASE 4655 SOUTH CENTRAL AVENUE

CHICAGO, IL US 60638

Contact: MIKE LINLEY

linleym@rushtruckcenters.com T: (708)496-7500

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) F: (708)496-8818

Report Id: IDECHIIL [WUSCAR] 05962008 (Generated: 09/28/2023 12:00:38) Rev: 1