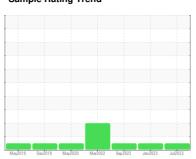


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



INTERNATIONAL 8811153

Component

Diesel Engine

NOT GIVEN (--- GAL)

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

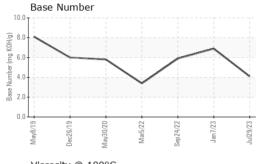
Fluid Condition

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

		May2019	Dec2019 May2020	Mar2022 Sep2022 Jan2023	Jul2023	
SAMPLE INFORM	//ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL05934662	IL05743912	IL05665423
Sample Date		Client Info		29 Jul 2023	07 Jan 2023	24 Sep 2022
Machine Age	mls	Client Info		193642	176846	168695
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	47	25	43
Chromium	ppm	ASTM D5185m	>20	1	1	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	4	6
Lead	ppm	ASTM D5185m	>40	5	1	4
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		38	43	21
Boron Barium	ppm	ASTM D5185m ASTM D5185m		38 0	43 0	21
Barium	ppm	ASTM D5185m		0	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		0 75	0 60	0 72
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 75 <1	0 60 <1	0 72 1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 75 <1 600	0 60 <1 734	0 72 1 719
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 75 <1 600 1424	0 60 <1 734 1221	0 72 1 719 1293
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 75 <1 600 1424 884	0 60 <1 734 1221 705	0 72 1 719 1293 708
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 75 <1 600 1424 884 1118	0 60 <1 734 1221 705 909	0 72 1 719 1293 708 919
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		0 75 <1 600 1424 884 1118 3204 current	0 60 <1 734 1221 705 909 2706 history1	0 72 1 719 1293 708 919 2710 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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		0 75 <1 600 1424 884 1118 3204	0 60 <1 734 1221 705 909 2706 history1 6 3	0 72 1 719 1293 708 919 2710
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		0 75 <1 600 1424 884 1118 3204 current	0 60 <1 734 1221 705 909 2706 history1	0 72 1 719 1293 708 919 2710 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25	0 75 <1 600 1424 884 1118 3204 current 8	0 60 <1 734 1221 705 909 2706 history1 6 3	0 72 1 719 1293 708 919 2710 history2 9
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20	0 75 <1 600 1424 884 1118 3204 current 8 3 6	0 60 <1 734 1221 705 909 2706 history1 6 3	0 72 1 719 1293 708 919 2710 history2 9 2 17
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m MEthod ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base >3	0 75 <1 600 1424 884 1118 3204 current 8 3 6	0 60 <1 734 1221 705 909 2706 history1 6 3 7	0 72 1 719 1293 708 919 2710 history2 9 2 17 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base >3	0 75 <1 600 1424 884 1118 3204 current 8 3 6 current 0.6	0 60 <1 734 1221 705 909 2706 history1 6 3 7 history1	0 72 1 719 1293 708 919 2710 history2 9 2 17 history2 0.6
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 method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base >3 >20	0 75 <1 600 1424 884 1118 3204 current 8 3 6 current 0.6 11.7	0 60 <1 734 1221 705 909 2706 history1 6 3 7 history1 0.3 11.6	0 72 1 719 1293 708 919 2710 history2 9 2 17 history2 0.6 15.4
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 MEthod ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	>25 >20 limit/base >3 >20 >30	0 75 <1 600 1424 884 1118 3204 current 8 3 6 current 0.6 11.7 27.3	0 60 <1 734 1221 705 909 2706 history1 6 3 7 history1 0.3 11.6 22.2	0 72 1 719 1293 708 919 2710 history2 9 2 17 history2 0.6 15.4 27.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	>25 >20 limit/base >3 >20 >3 >20 >30 limit/base	0 75 <1 600 1424 884 1118 3204 current 8 3 6 current 0.6 11.7 27.3 current	0 60 <1 734 1221 705 909 2706 history1 6 3 7 history1 0.3 11.6 22.2 history1	0 72 1 719 1293 708 919 2710 history2 9 2 17 history2 0.6 15.4 27.7 history2



OIL ANALYSIS REPORT

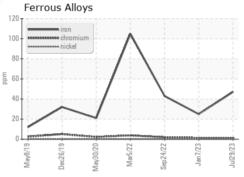


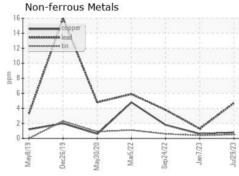
Visco	sity @	100°C				
17 Abnom	nal					
16						
(100°C)						
				\	_	
Abnom	nal					
11						
/lay8/19	lec26/19	30/20	ar5/22	24/22	an7/23	
Ma	Dec	May	Mar	Sep	Ē	

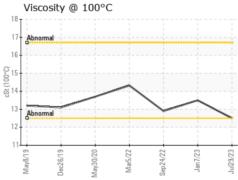
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

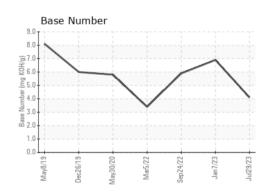
FLUID PROPERTIES		method			history2
Visc @ 100°C	cSt	ASTM D445	12.5	13.5	12.9

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

Unique Number : 10619933

: IL05934662 : 05934662

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed

: 25 Aug 2023 : 28 Aug 2023

Diagnostician : Sean Felton

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)

TAMPA IDEALEASE 5951 ORIENT ROAD

TAMPA, FL US 33610-9565 Contact: Russ Cook

russcook@idealease.com T: (813)626-9285

F: (844)270-1356