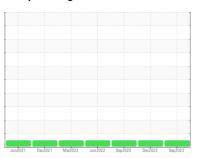


## **OIL ANALYSIS REPORT**

#### **Sample Rating Trend**







# Machine Id **8110632**

Component **Diesel Engine** 

**DIESEL ENGINE OIL SAE 40 (--- 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

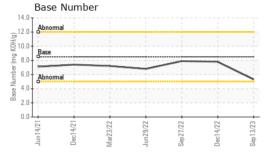
### **Fluid Condition**

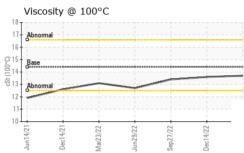
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Jun2021	Dec2021 Mar2022	Jun2022 Sep2022 Dec2022	Sep2023	
SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL05967317	IL05723927	IL05665414
Sample Date		Client Info		13 Sep 2023	14 Dec 2022	27 Sep 2022
Machine Age	mls	Client Info		310884	228081	202760
Oil Age	mls	Client Info		40000	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	41	8	9
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	1	0
Aluminum	ppm	ASTM D5185m	>20	6	1	2
Lead	ppm	ASTM D5185m	>40	7	1	2
Copper	ppm	ASTM D5185m	>330	1	1	1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVE O						
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	method ASTM D5185m	limit/base 250	current 30	history1 36	history2 65
	ppm					
Boron		ASTM D5185m	250	30	36	65
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	30 0	36 0	65 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	30 0 61	36 0 62	65 0 70
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	30 0 61 <1	36 0 62 <1	65 0 70 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	30 0 61 <1 582	36 0 62 <1 691	65 0 70 <1 636
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	30 0 61 <1 582 1425	36 0 62 <1 691 1274	65 0 70 <1 636 1289
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	30 0 61 <1 582 1425 848	36 0 62 <1 691 1274 726	65 0 70 <1 636 1289 832
Boron 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 ASTM D5185m	250 10 100 450 3000 1150	30 0 61 <1 582 1425 848 1035	36 0 62 <1 691 1274 726 944	65 0 70 <1 636 1289 832 1039
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	250 10 100 450 3000 1150 1350 4250 limit/base	30 0 61 <1 582 1425 848 1035 2769 current	36 0 62 <1 691 1274 726 944 2747	65 0 70 <1 636 1289 832 1039 3077 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	30 0 61 <1 582 1425 848 1035 2769 current	36 0 62 <1 691 1274 726 944 2747 history1	65 0 70 <1 636 1289 832 1039 3077 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	30 0 61 <1 582 1425 848 1035 2769 current	36 0 62 <1 691 1274 726 944 2747 history1	65 0 70 <1 636 1289 832 1039 3077 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	30 0 61 <1 582 1425 848 1035 2769 current 6 2	36 0 62 <1 691 1274 726 944 2747 history1 4	65 0 70 <1 636 1289 832 1039 3077 history2 6 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	30 0 61 <1 582 1425 848 1035 2769 current 6 2 3	36 0 62 <1 691 1274 726 944 2747 history1 4 <1	65 0 70 <1 636 1289 832 1039 3077 history2 6 2
Boron 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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3	30 0 61 <1 582 1425 848 1035 2769 current 6 2 3	36 0 62 <1 691 1274 726 944 2747 history1 4 <1 2	65 0 70 <1 636 1289 832 1039 3077 history2 6 2 2
Boron 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	30 0 61 <1 582 1425 848 1035 2769 current 6 2 3 current 0.7	36 0 62 <1 691 1274 726 944 2747 history1 4 <1 2 history1 0.4	65 0 70 <1 636 1289 832 1039 3077 history2 6 2 2 history2 0.4
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  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	30 0 61 <1 582 1425 848 1035 2769 current 6 2 3 current 0.7 13.5	36 0 62 <1 691 1274 726 944 2747 history1 4 <1 2 history1 0.4 10.9	65 0 70 <1 636 1289 832 1039 3077 history2 6 2 2 history2 0.4 10.5
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  Method  *ASTM D5185m ASTM D7844  *ASTM D7624  *ASTM D76145	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 >20 >30	30 0 61 <1 582 1425 848 1035 2769 current 6 2 3 current 0.7 13.5 26.6	36 0 62 <1 691 1274 726 944 2747 history1 4 <1 2 history1 0.4 10.9 23.4	65 0 70 <1 636 1289 832 1039 3077 history2 6 2 2 0.4 10.5 23.4



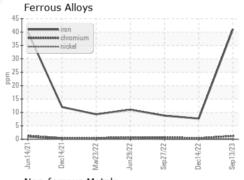
## **OIL ANALYSIS REPORT**

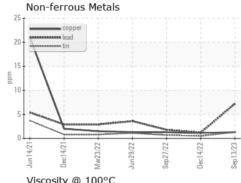


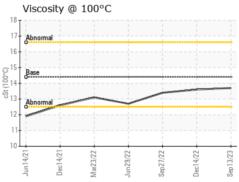


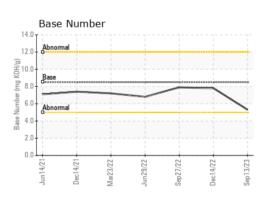
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERI	HES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	13.6	13.4













Laboratory Sample No. Lab Number

Unique Number : 10673868

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : IL05967317 : 05967317

Received Diagnosed

: 03 Oct 2023 : 04 Oct 2023

Diagnostician : Don Baldridge

Test Package : FLEET 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