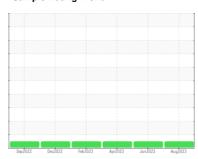


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 22318 Component

Diesel Engine

DIESEL ENGINE OIL SAE 10W30 (--- QTS)

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

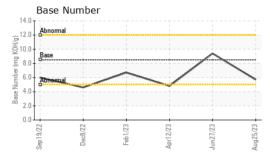
Fluid Condition

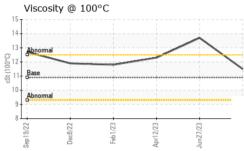
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Sep2022	Dec2022 Feb2023	Apr2023 Jun2023	Aug2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0832052	WC05952475	WC0784065
Sample Date		Client Info		25 Aug 2023	27 Jun 2023	12 Apr 2023
Machine Age	mls	Client Info		284615	237643	183563
Oil Age	mls	Client Info		50000	50000	183563
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	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	18	6	23
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	5	1	6
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	<1	2
Tin	ppm	ASTM D5185m	>15	<1	1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	12	2	22
Barium		AOTA DELOE	10	0	4.4	0
	ppm	ASTM D5185m	10	U	44	U
Molybdenum	ppm	ASTM D5185m ASTM D5185m	100	94	59	60
				-		
Molybdenum	ppm	ASTM D5185m		94	59	60
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	100	94 <1	59	60 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	100	94 <1 906	59 1 925	60 <1 783
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000	94 <1 906 1359	59 1 925 1000	60 <1 783 1595
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000 1150	94 <1 906 1359 1078	59 1 925 1000 962	60 <1 783 1595 1027
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	100 450 3000 1150 1350	94 <1 906 1359 1078 1411	59 1 925 1000 962 1200	60 <1 783 1595 1027 1308
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	100 450 3000 1150 1350 4250	94 <1 906 1359 1078 1411 3153	59 1 925 1000 962 1200 3449	60 <1 783 1595 1027 1308 3527
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000 1150 1350 4250 limit/base	94 <1 906 1359 1078 1411 3153	59 1 925 1000 962 1200 3449 history1	60 <1 783 1595 1027 1308 3527 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	100 450 3000 1150 1350 4250 limit/base	94 <1 906 1359 1078 1411 3153 current	59 1 925 1000 962 1200 3449 history1	60 <1 783 1595 1027 1308 3527 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	100 450 3000 1150 1350 4250 limit/base >25	94 <1 906 1359 1078 1411 3153 current 10 2	59 1 925 1000 962 1200 3449 history1 7	60 <1 783 1595 1027 1308 3527 history2 9
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	100 450 3000 1150 1350 4250 limit/base >25 >20	94 <1 906 1359 1078 1411 3153 current 10 2 6	59 1 925 1000 962 1200 3449 history1 7 3 4	60 <1 783 1595 1027 1308 3527 history2 9 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	100 450 3000 1150 1350 4250 limit/base >25 >20 limit/base >3	94 <1 906 1359 1078 1411 3153 current 10 2 6 current	59 1 925 1000 962 1200 3449 history1 7 3 4	60 <1 783 1595 1027 1308 3527 history2 9 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	100 450 3000 1150 1350 4250 limit/base >25 >20 limit/base >3	94 <1 906 1359 1078 1411 3153 current 10 2 6 current 0.4	59 1 925 1000 962 1200 3449 history1 7 3 4 history1 0.2	60 <1 783 1595 1027 1308 3527 history2 9 3 9 history2 0.4
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	100 450 3000 1150 1350 4250 limit/base >25 >20 limit/base >3 >20	94 <1 906 1359 1078 1411 3153 current 10 2 6 current 0.4 11.5	59 1 925 1000 962 1200 3449 history1 7 3 4 history1 0.2 7.8	60 <1 783 1595 1027 1308 3527 history2 9 3 9 history2 0.4 10.7
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 Method *ASTM D7844 *ASTM D7624 *ASTM D76145	100 450 3000 1150 1350 4250 limit/base >25 >20 limit/base >3 >20 >30	94 <1 906 1359 1078 1411 3153 current 10 2 6 current 0.4 11.5 24.4	59 1 925 1000 962 1200 3449 history1 7 3 4 history1 0.2 7.8 18.4	60 <1 783 1595 1027 1308 3527 history2 9 3 9 history2 0.4 10.7 22.6



OIL ANALYSIS REPORT

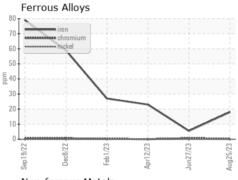




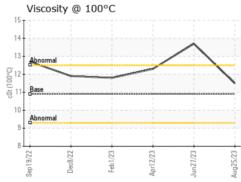
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

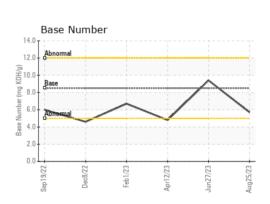
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	10.9	11.5	13.7	12.3	

GRAPHS



Non-	ferrous	Metals			
14T X	copper				
12-	*** lead				
10-	VIII UII				
8					
6					
4					
2-		-	_		
0 ***********	Contract to the same	Charles de la constant	CHARLES THE PARTY NAMED IN	CHARLES STREET, SQUARE,	Bioglogates.
Sep19/22	Jec8/22	Feb 1/23	Apr12/23	Jun27/23	Aug25/23
Sep	Ď	굔	Apr	Jun	Aug
Visco	sity @ 1	L00°C			









Laboratory Sample No. Lab Number Unique Number : 10727955

: WC0832052 : 05999595 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 06 Nov 2023 Diagnosed

: 07 Nov 2023

Diagnostician : Wes Davis

Certificate L2367 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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