

## **OIL ANALYSIS REPORT**





Component **Diesel Engine** Fluid DIESEL ENGINE OIL SAE 15W40 (--- GAL)

### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

Machine Id 421

All component wear rates are normal.

#### Contamination

Elemental level of silicon (Si) above normal.

#### Fluid Condition

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

SAMPLE INFORM	<b>/ATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0069340	PCA0069349	PCA0069498
Sample Date		Client Info		03 Jan 2024	25 May 2023	15 Nov 2022
Machine Age	mls	Client Info		533050	466963	427117
Oil Age	mls	Client Info		0	18766	22845
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<u>ح</u> 10	<10	<10
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method	20.L	NEG	NEG	NEG
	2	method	limit/base	current	history1	history2
	5		100		70	05
Iron	ppm	ASTM D5185m	>100	16	79	25
Chromium	ppm	ASTM D5185m	>20	<1	9	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Litanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	- 13	3
Lead	ppm	ASTM D5185m	>40	2	2	0
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	2	2	4
Barium	ppm	ASTM D5185m	10	1	0	0
Molybdenum	ppm	ASTM D5185m	100	66	63	60
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m	450	1023	936	952
Calcium	ppm	ASTM D5185m	3000	1257	1109	1115
Phosphorus	ppm	ASTM D5185m	1150	1150	1008	1000
Zinc	ppm	ASTM D5185m	1350	1373	1246	1247
Sulfur	ppm	ASTM D5185m	4250	3599	2966	3336
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<u> </u>	<u> </u>	4
Sodium	ppm	ASTM D5185m	>158	5	4	4
Potassium				3	-1	
	ppm	ASTM D5185m	>20	4	5	2
INFRA-RED	ppm	ASTM D5185m method	>20 limit/base	4 current	5 history1	2 history2
INFRA-RED Soot %	ppm %	ASTM D5185m method *ASTM D7844	>20 limit/base >3	4 current 0.3	5 history1 0.5	2 history2 0.5
INFRA-RED Soot % Nitration	ppm % Abs/cm	ASTM D5185m method *ASTM D7844 *ASTM D7624	>20 limit/base >3 >20	4 current 0.3 9.0	5 history1 0.5 9.8	2 history2 0.5 11.2
INFRA-RED Soot % Nitration Sulfation	ppm % Abs/cm Abs/.1mm	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	>20 limit/base >3 >20 >30	4 current 0.3 9.0 20.9	5 history1 0.5 9.8 21.9	2 history2 0.5 11.2 23.5
INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm % Abs/cm Abs/.1mm DATION	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	>20 limit/base >3 >20 >30 limit/base	4 current 0.3 9.0 20.9 current	5 history1 0.5 9.8 21.9 history1	2 history2 0.5 11.2 23.5 history2
INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm % Abs/cm Abs/.1mm <b>DATION</b> Abs/.1mm	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414	>20 limit/base >3 >20 >30 limit/base >25	4 <u>current</u> 0.3 9.0 20.9 <u>current</u> 17.3	5 history1 0.5 9.8 21.9 history1 18.4	2 history2 0.5 11.2 23.5 history2 20.8
INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation Base Number (BN)	ppm % Abs/cm Abs/.1mm DATION Abs/.1mm mg KOH/g	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414 ASTM D2896	>20 limit/base >3 >20 >30 limit/base >25 8.5	4 <u>current</u> 0.3 9.0 20.9 <u>current</u> 17.3 7.5	5 history1 0.5 9.8 21.9 history1 18.4 7.7	2 history2 0.5 11.2 23.5 history2 20.8 6.2



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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	
3,24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Jan	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2	
	Visc @ 100°C	cSt	ASTM D445	14.4	14.1	14.0	13.9	
	GRAPHS							
	Ferrous Alloys							
			$\wedge$					
y25/23	70 - chromium	/						
Mar								
0	E 40	/						
	30							
	20							
	10							
		CONTRACTOR DATA DATA DATA DATA DATA DATA DATA DAT	A REAL PROPERTY AND A REAL	Change of Frank				
	24/22		25/23	13/24				
	Aug		Mayi	Jar				
	Non-ferrous Meta	ls						
125/23	10 copper 1							
May	8 -							
	6- E							
	4							
	2	and a second	AND AND DESCRIPTION OF A DESCRIPTION OF	Contractor of				
	0	AND	And Ball States of Concession					
	24/22		25/23	n3/24				
	Aug		May	Ja				
	Viscosity @ 100°C	2			Base Number			
	10			14.0	°T :			
	17- Abnormal			12.0	0 - Abnormal			
	16-			10/H0	D			
	0 15 Base			g 8.0	0 - Gase			
	5 14				Abnormal			
	13 Abnormal			N 92 4.0				
	12			2.0	0			
	11			0				
	4/22		5/23	3/24	4/22	27/6	3/24 -	
	Aug2 Nov1		May2	Jan	Aug2	1 A DVI	Jan	
Laboratory Sample No. Lab Number	: WearCheck USA - 50 : PCA0069340 r : 06128552	1 Madiso Recei	on Ave., Cary ived : 25	y, NC 27513 5 Mar 2024 6 Mar 2024		<b>LEFEBV</b> 10895 <sup>-</sup> F	LEFEBVRE AND SONS 10895 171ST AVE NW	
TESTING LABORATORY Unique Number	r : 10942703	Diagr	Diagnosed : 28 Mar 2024 - Don Baldric			-	US 55330	
Certificate L2367 Test Package	e :FLEET	- 3-				Contact: J	AY LEFEBVRE	
To discuss this sample repor	t, contact Customer Serv	ice at 1-8	300-237-1369	9.		jay.lefebvr	e@leftruck.com	
* - Denotes test methods that Statements of conformity to s	t are outside of the ISO 1 specifications are based o	7025 scc on the sin	ppe of accred	litation. nce decision	rule (JCGM 106	:2012)	T: F:	

Contact/Location: JAY LEFEBVRE - LEFELK