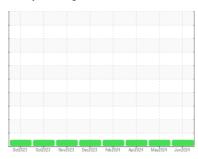


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 1013 Component Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- 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

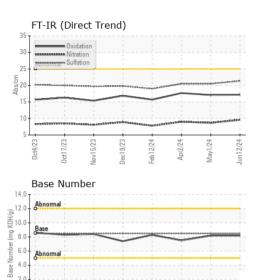
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

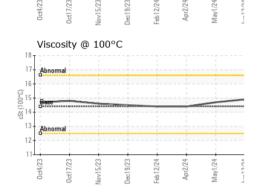
Oct2023 Oct2023 Nev2023 Oct2023 Feb2024 Apr2024 May2024 Jun2024						
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0897814	WC0897846	WC0893950
Sample Date		Client Info		12 Jun 2024	01 May 2024	02 Apr 2024
Machine Age	mls	Client Info		0	858091	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	19	16	17
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	<1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	3	2	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	1	0	0
Barium	ppm	ASTM D5185m	10	0	2	0
Molybdenum	ppm	ASTM D5185m	100	63	66	60
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	1064	966	978
Calcium	ppm	ASTM D5185m	3000	1261	1119	1088
Phosphorus	ppm	ASTM D5185m	1150	1094	1110	1012
Zinc	ppm	ASTM D5185m	1350	1422	1260	1223
Sulfur	ppm	ASTM D5185m	4250	3608	3086	3309
CONTAMINANTS	;	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	14	18	9
Sodium	ppm	ASTM D5185m	>158	3	0	2
Potassium	ppm	ASTM D5185m	>20	7	6	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	1.1	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.6	8.7	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	20.5	20.5
FLUID DEGRADATION method limit/base current history1 history2						
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	17.1	17.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.2	8.2	7.5



2.0 0.0

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 PROPERT	TIFS	method	limit/base	current	historv1	historv2

I LOID I NOI LI	TILO	memou			HISTOLAL	HISTOLYZ
Visc @ 100°C	cSt	ASTM D445	14.4	14.9	14.7	14.4

GR	RAPHS							
Iro	n (ppm	1)						Lead (ppm)
250 Seve	ere		1					Severe
								0
00 - Abn	ormal							Abnomal Abnomal
50								20
0ct4/23	1/23	6/23	9/23	1/24	Apr2/24 -	1/24	1/24	Oct4/23 Oct17/23 Iov15/23 eb12/24 Apr2/24 May1/24
0ct/	Oct17/23	Nov15/23	Dec19/23	Feb12/24	Apri	May1/24	Jun12/24	0ct17/23 0ct17/23 Nov15/23 Feb12/24 Apr2/24
Alu	minum	ı (ppn	n)					Chromium (ppm)
Seve	ere							40 Severe
								E 30
Abn	ormal							20 - Abnormal
1								10
0ct4/23	Oct17/23 -	Nov15/23	Dec19/23 +	Feb12/24	Apr2/24 -	May1/24 -	Jun12/24	Oct1723 - Oct1723 - Nov15/23 - Feb12/24 - Apr2/24 -
Oct	0ct1	Nov1	Dec1	윤	Apr	Мау	Jun	Octi Novi Deci Apr
	pper (p	pm)						Silicon (ppm)
Abn	ere Omnal							60+
								& 40 -
)								Abnormal
								0
0ct4/23	0ct17/23 +	Nov15/23	Dec19/23 -	Feb12/24	Apr2/24 -	May1/24 -	Jun12/24	Oct4/23 + Oct17/23 + Dec19/23 + Feb12/24 + Apr2/24 + May/1/24 + May/1/24 + Dec19/24 + De
				Febl	Apı	Мај	Jun	Octi Novi Febi Apr
Vis	cosity	@ 100	0°C					Base Number
	ormal							Abnormal
Base		*****						E 10.0 Base
Abn	ormal							5.0 Abnormal
0								Abnormal Base Abnormal 5.0 - Abnormal
Oct4/23	Oct17/23 +	Nov15/23 -	Dec19/23 +	Feb12/24 -	Apr2/24 -	May1/24 -	Jun12/24	0ct1723 - 0ct1723 - Pec19/23 - Peb12/24 - Peb12/24 - Apr2/24 - Apr
000	0ct1	Nov1	Dec1	윤	Apı	Мау	Jun	Octi Novi Peci Apr





Certificate 12367

Laboratory

Sample No. : WC0897814 Lab Number : 06219140 Unique Number : 11097337

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 24 Jun 2024 **Tested**

: 25 Jun 2024 : 25 Jun 2024 - Wes Davis Diagnosed Test Package : MOB 1 (Additional Tests: TBN)

1903 FAYETTEVILLE ST DURHAM, NC US 27701

GO DURHAM - RAPT

Contact: Robert Iosiniecki Robert.losiniecki@ratpdev.com

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)

Report Id: GODDUR [WUSCAR] 06219140 (Generated: 06/25/2024 16:29:25) Rev: 1

Contact/Location: Robert Iosiniecki - GODDUR

T:

F: