

## **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id 913032

Fluid

Component Diesel Engine

### DIESEL ENGINE OIL SAE 40 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. 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

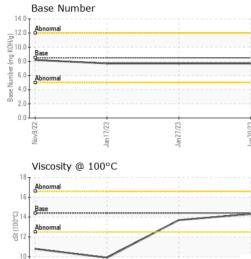
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

			Jan2023 Jun2023			
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0076971	GFL0064928	GFL0064935
Sample Date		Client Info		30 Jun 2023	27 Jan 2023	17 Jan 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATI	ON	method	limit/base	current	history 1	history 2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>120	16	18	36
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>5	<1	6	<u> </u>
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	<1	1	14
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	6	12	158
Tin	ppm	ASTM D5185m	>15	2	2	4
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	250	9	11	242
Barium	ppm	ASTM D5185m	10	0	0	<1
Molybdenum	ppm	ASTM D5185m	100	67	64	115
Manganese	ppm	ASTM D5185m		1	1	5
Manuanation				1010		
Magnesium	ppm	ASTM D5185m	450	1040	912	653
Calcium	ppm ppm	ASTM D5185m ASTM D5185m	450 3000	1040 1179	912 1094	653 1453
Calcium						
Calcium Phosphorus	ppm	ASTM D5185m	3000	1179	1094	1453
Calcium Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m	3000 1150 1350	1179 1104	1094 945	1453 656
Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350	1179 1104 1379	1094 945 1164	1453 656 827
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250	1179 1104 1379 3655	1094 945 1164 3253	1453 656 827 2608
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	3000 1150 1350 4250 limit/base >25	1179 1104 1379 3655 current	1094 945 1164 3253 history 1	1453 656 827 2608 history 2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	3000 1150 1350 4250 <b>limit/base</b> >25 >216	1179 1104 1379 3655 current 7	1094 945 1164 3253 history 1 8	1453 656 827 2608 history 2 ▲ 61
Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 <b>limit/base</b> >25 >216	1179 1104 1379 3655 current 7 4	1094 945 1164 3253 history 1 8 2	1453 656 827 2608 history 2 ▲ 61 3
Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium Potassium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	1179 1104 1379 3655 current 7 4 6	1094 945 1164 3253 history 1 8 2 3	1453 656 827 2608 history 2 ▲ 61 3 37
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >4	1179 1104 1379 3655 current 7 4 6 current	1094 945 1164 3253 history 1 8 2 3 history 1	1453 656 827 2608 history 2 ▲ 61 3 37 history 2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >4 >20	1179 1104 1379 3655 current 7 4 6 current 0.6	1094 945 1164 3253 history 1 8 2 3 3 history 1 0.4	1453 656 827 2608 history 2 ▲ 61 3 37 bistory 2 0.3
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm ppm ppm % Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624	3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >4 >20	1179 1104 1379 3655 current 7 4 6 current 0.6 10.6	1094 945 1164 3253 history 1 8 2 3 history 1 0.4 8.8	1453 656 827 2608 history 2 ▲ 61 3 37 history 2 0.3 10.0
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm TS ppm ppm ppm ppm ppm % Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624	3000 1150 1350 4250 <b>Imit/base</b> >25 >216 >20 <b>Imit/base</b> >4 >20 >30	1179 1104 1379 3655 current 7 4 6 current 0.6 10.6 22.8	1094 945 1164 3253 history 1 8 2 3 history 1 0.4 8.8 19.9	1453 656 827 2608 history 2



Nov9/22

# **OIL ANALYSIS REPORT**



Jan17/23

	VISUAL		method	limit/base	current	history 1	history
	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
Jun30/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
- P	0401	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROP	ERTIES	method	limit/base	current	history 1	history
	Visc @ 100°C	cSt	ASTM D445	14.4	14.3	13.7	9.9
	GRAPHS						
	Ferrous Alloys						
	40 - iron						
	35 nickel						
	E <sup>25</sup> -						
	15						
	10						
	5-		and the state of t				
	23		/23	/23			
	Nov9/22		Jan 27/23	Jun30/23			
	Non-ferrous Met	als		*			
	<sup>160</sup>						
	140 - copper	\					
	120 tin	- \					
	100-	· · · · · · · · · · · · · · · · · · ·					
	톮 80	· · · / · · ·					
	60 -						
	40 -	/					
	20 -						
	23 <b>1</b> 0		73	123			
	Nov9/22 Jan 17/23		Jan 27/23	Jun30/23			
	Viscosity @ 100	°C	,	7	Dana Numba		
	18 17 Abnormal			14.0	1	۲ ۱	
	16 -			12.0			
	15 - Base			( <sup>B</sup> H 10.0	0		
	©14			У Ш 8.1	Base		
	다 14 - Abnormal 행 12 - 전 12 - Abnormal	/		nber (i	0		
		/		(B)H0.1 H0.1 Bull sa .0 Bull sa .	Abnormal		
	11-						
				2.0	0+		
	11						
			23		0	23	
	11		Jan 27/23			Jan 17/23 +	C7/(71000
	11 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	F04.44- #		0.1 100003	Nav9/22		
ory No.		- 501 Madis	son Ave., Ca	0.1 100003	Nav9/22	nvironmental - (	)20 - Alama
ory No. nber	: WearCheck USA		son Ave., Ca I : 06	ary, NC 27513	Nav9/22	nvironmental - (	<b>)20 - Alama</b> ast Gilbreat
No. nber umbe	: WearCheck USA : GFL0076971 : 05891152 r : 10546962	Received	son Ave., Ca I : 06 ed : 06	ary, NC 27513 Jul 2023	Nav9/22	nvironmental - (	<b>020 - Alama</b> ast Gilbreat Graham, US 27
No. nber umbe ckage	: WearCheck USA : GFL0076971 : 05891152 r : 10546962	Received Diagnose Diagnost	son Ave., Ca I : 06 ed : 06 ician : We	ary, NC 2751: Jul 2023 Jul 2023 Jul 2023 is Davis	Nav9/22	nvironmental - (	<b>)20 - Alama</b> ast Gilbreat Graham, US 27 Cont

Submitted By: JEREMY SHORES