

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

## DFGS273152

Diesel Engine Fluid 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.

SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0950037	WC0814700	WC0668869
Sample Date		Client Info		12 Jun 2024	04 May 2023	20 Feb 2022
Machine Age	hrs	Client Info		13444	12101	10745
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	ATTENTION
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>100	7	16	14
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	14	11
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	<1	1	3
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 358	history1 425	history2 366
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	250	358	425	366
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	358 0	425 0	366 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	358 0 88	425 0 102	366 0 102
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	358 0 88 0	425 0 102 <1	366 0 102 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	358 0 88 0 402	425 0 102 <1 403 1520 988	366 0 102 <1 515
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 1150 1350	358 0 88 0 402 1416	425 0 102 <1 403 1520	366 0 102 <1 515 1525 697 848
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	358 0 88 0 402 1416 1014	425 0 102 <1 403 1520 988	366 0 102 <1 515 1525 697
Boron Barium 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	250 10 100 450 3000 1150 1350	358 0 88 0 402 1416 1014 1224	425 0 102 <1 403 1520 988 1219	366 0 102 <1 515 1525 697 848
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 >25	358 0 88 0 402 1416 1014 1224 3669 current 4	425 0 102 <1 403 1520 988 1219 3387 history1 4	366 0 102 <1 515 1525 697 848 2310 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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 1350 4250	358 0 88 0 402 1416 1014 1224 3669 current 4 5	425 0 102 <1 403 1520 988 1219 3387 history1 4 34	366 0 102 <1 515 1525 697 848 2310 history2 5 86
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 >25	358 0 88 0 402 1416 1014 1224 3669 current 4	425 0 102 <1 403 1520 988 1219 3387 history1 4	366 0 102 <1 515 1525 697 848 2310 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m 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 <b>limit/base</b> >25 >158	358 0 88 0 402 1416 1014 1224 3669 current 4 5 0	425 0 102 <1 403 1520 988 1219 3387 history1 4 34 3 history1	366 0 102 <1 515 1525 697 848 2310 history2 5 86 0 0 history2
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158 >20	358 0 88 0 402 1416 1014 1224 3669 current 4 5 0 current 0.1	425 0 102 <1 403 1520 988 1219 3387 history1 4 34 3 history1 0.1	366 0 102 <1 515 1525 697 848 2310 history2 5 86 0 0 history2 0.1
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >158 >20 <b>Imit/base</b>	358 0 88 0 402 1416 1014 1224 3669 <i>current</i> 4 5 0 <i>current</i> 0.1 7.8	425 0 102 <1 403 1520 988 1219 3387 history1 4 34 3 history1 0.1 8.3	366 0 102 <1 515 1525 697 848 2310 history2 5 86 0 0 history2 0.1 10.2
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >158 >20 <b>Iimit/base</b> >3	358 0 88 0 402 1416 1014 1224 3669 current 4 5 0 current 0.1	425 0 102 <1 403 1520 988 1219 3387 history1 4 34 3 history1 0.1	366 0 102 <1 515 1525 697 848 2310 history2 5 86 0 0 history2 0.1
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >158 >20 <b>imit/base</b> >3 >20	358 0 88 0 402 1416 1014 1224 3669 <i>current</i> 4 5 0 <i>current</i> 0.1 7.8	425 0 102 <1 403 1520 988 1219 3387 history1 4 34 3 history1 0.1 8.3	366 0 102 <1 515 1525 697 848 2310 history2 5 86 0 0 history2 0.1 10.2
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >158 >20 <b>imit/base</b> >3 >20	358 0 88 0 402 1416 1014 1224 3669 <u>current</u> 4 5 0 <u>current</u> 0.1 7.8 21.9	425 0 102 <1 403 1520 988 1219 3387 history1 4 34 3 history1 0.1 8.3 21.3	366 0 102 <1 515 1525 697 848 2310 history2 5 86 0 history2 0.1 10.2 22.7



-20

18

cSt (100°C)

Ba

Vov17/15

-20

Jov17/15

Abnorma

Feb7/17

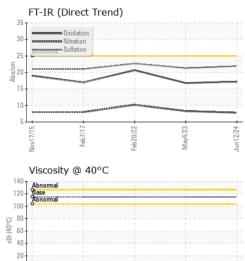
Feb7/17

Feb7/17

Viscosity @ 40°C

Viscosity @ 100°C

# **OIL ANALYSIS REPORT**



CC/UC49

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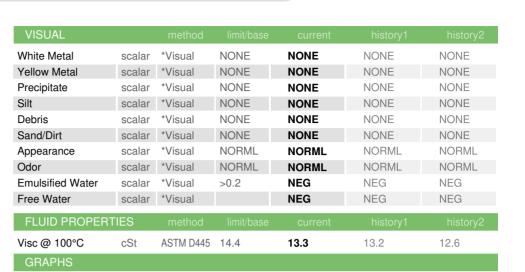
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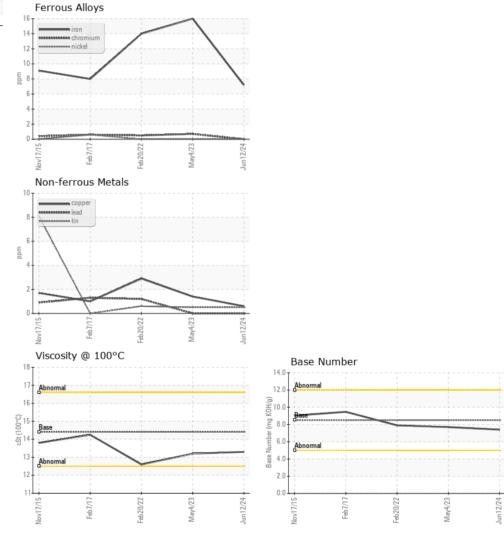
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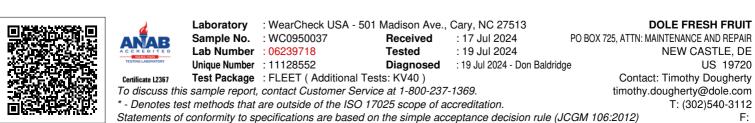
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Jun12/24







Contact/Location: Timothy Dougherty - DOLWIL