

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

WESTCHESTER DES DANA RD GEN 19 - FLEET 575220 40074956 Component Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 5W30 (--- 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.

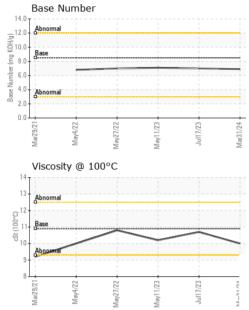
Fluid Condition

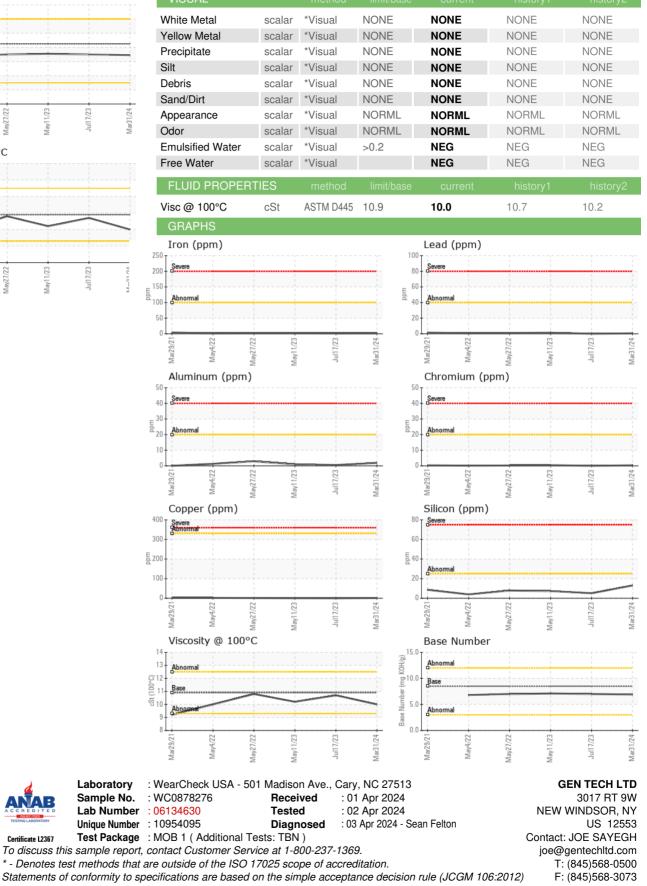
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0878276	WC0799754	WC0748877
Sample Date		Client Info		31 Mar 2024	17 Jul 2023	11 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٨	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		>100	2	<1	2
Chromium	ppm	ASTM D5185m ASTM D5185m	>20	<1 <1	0	<1 <1
Nickel	ppm		>4			
Titanium Silver	ppm	ASTM D5185m ASTM D5185m	>3	<1	0	<1 0
Aluminum	ppm	ASTM D5185m	>3 >20	0 2	<1	1
	ppm				0	1
Lead	ppm	ASTM D5185m ASTM D5185m	>40 >330	<1 1	0	<1
Copper Tin	ppm		>330	، <1	0	<1
Vanadium	ppm	ASTM D5185m	>15	<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
Caumum	ppm	ASTIVI DJ I OJITI		51	0	0
					-	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 238	history1 224	history2 199
			250 10			
Boron	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	238	224	199
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	238 0	224 0 68 <1	199 0 69 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	238 0 73 <1 524	224 0 68 <1 556	199 0 69 <1 566
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	238 0 73 <1 524 1235	224 0 68 <1 556 1233	199 0 69 <1 566 1259
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	238 0 73 <1 524 1235 580	224 0 68 <1 556 1233 699	199 0 69 <1 566 1259 690
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	238 0 73 <1 524 1235 580 723	224 0 68 <1 556 1233 699 836	199 0 69 <1 566 1259 690 851
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	238 0 73 <1 524 1235 580	224 0 68 <1 556 1233 699	199 0 69 <1 566 1259 690
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm 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	238 0 73 <1 524 1235 580 723	224 0 68 <1 556 1233 699 836	199 0 69 <1 566 1259 690 851
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm 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	238 0 73 <1 524 1235 580 723 2687	224 0 68 <1 556 1233 699 836 3576	199 0 69 <1 566 1259 690 851 3612
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm 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	238 0 73 <1 524 1235 580 723 2687 current	224 0 68 <1 556 1233 699 836 3576 history1	199 0 69 <1 566 1259 690 851 3612 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	250 10 100 450 3000 1150 1350 4250 limit/base >25	238 0 73 <1 524 1235 580 723 2687 <u>current</u> 13	224 0 68 <1 556 1233 699 836 3576 history1 5	199 0 69 <1 566 1259 690 851 3612 history2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	238 0 73 <1 524 1235 580 723 2687 Current 13 2	224 0 68 <1 556 1233 699 836 3576 history1 5 1	199 0 69 <1 566 1259 690 851 3612 history2 7 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20	238 0 73 <1 524 1235 580 723 2687 current 13 2 1	224 0 68 <1 556 1233 699 836 3576 history1 5 1 <1	199 0 69 <1 566 1259 690 851 3612 history2 7 2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >20 Imit/base >3	238 0 73 <1 524 1235 580 723 2687 current 13 2 1 1 current	224 0 68 <1 556 1233 699 836 3576 history1 5 1 <1 <1 <1	199 0 69 <1 566 1259 690 851 3612 history2 7 2 6 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon 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 Imit/base >25 >20 Imit/base >3	238 0 73 <1 524 1235 580 723 2687 current 13 2 1 1 2 1 0	224 0 68 <1 556 1233 699 836 3576 history1 5 1 <1 <1 <1 history1 0	199 0 69 <1 566 1259 690 851 3612 history2 7 2 6 history2 0
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 i mit/base >25 >20 i mit/base >3 >20	238 0 73 <1 524 1235 580 723 2687 <i>current</i> 13 2 2 1 1 <i>current</i> 0 4.4	224 0 68 <1 556 1233 699 836 3576 history1 5 1 <1 <1 history1 0 4.3	199 0 69 <1 566 1259 690 851 3612 history2 7 2 6 6 history2 0 4.3
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 D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 imit/base >25 >20 imit/base >3 >20 >30	238 0 73 <1 524 1235 580 723 2687 Current 13 2 1 1 Current 0 4.4 13.7	224 0 68 <1 556 1233 699 836 3576 history1 5 1 <1 <1 history1 0 4.3 14.1 history1	199 0 69 <1 566 1259 690 851 3612 history2 7 2 6 history2 0 4.3 14.4 history2
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 imit/base >25 imit/base >3 >20 >30	238 0 73 <1 524 1235 580 723 2687 <u>current</u> 13 2 1 <u>current</u> 0 4.4 13.7	224 0 68 <1 556 1233 699 836 3576 history1 5 1 <1 <1 history1 0 4.3 14.1	199 0 69 <1 566 1259 690 851 3612 history2 7 2 6 6 history2 0 4.3 14.4



OIL ANALYSIS REPORT





Certificate L2367

Laboratory

Sample No.

Contact/Location: JOE SAYEGH - GENNEW