

OIL ANALYSIS REPORT

Sample Rating Trend





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

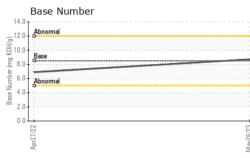
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

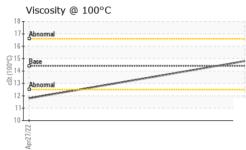
			Apr2022	May2023		
SAMPLE INFORM	IATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0048084	GFL0039443	
Sample Date		Client Info		26 May 2023	27 Apr 2022	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATI	ON	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	0.9	
Glycol		WC Method		NEG	NEG	
WEAR METALS	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	52	60	
Chromium	ppm	ASTM D5185m	>20	2	1	
Nickel	ppm	ASTM D5185m	>4	<1	<1	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>20	6	<u> </u>	
Lead	ppm	ASTM D5185m	>40	8	4	
Copper	ppm	ASTM D5185m	>330	8	210	
Tin	ppm	ASTM D5185m	>15	3	4	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	Method ASTM D5185m	limit/base 250	current 7	history 1 22	history 2
	ppm ppm					
Boron		ASTM D5185m	250	7	22	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	7 0	22 <1	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	7 0 69	22 <1 37	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	7 0 69 1	22 <1 37 2	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	7 0 69 1 1048	22 <1 37 2 460	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	7 0 69 1 1048 1353	22 <1 37 2 460 1240	
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	7 0 69 1 1048 1353 1157	22 <1 37 2 460 1240 973	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	7 0 69 1 1048 1353 1157 1510	22 <1 37 2 460 1240 973 1205	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	7 0 69 1 1048 1353 1157 1510 3280	22 <1 37 2 460 1240 973 1205 2448	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	7 0 69 1 1048 1353 1157 1510 3280 current	22 <1 37 2 460 1240 973 1205 2448 history 1	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	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	7 0 69 1 1048 1353 1157 1510 3280 current 9	22 <1 37 2 460 1240 973 1205 2448 history 1 ▲ 28	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 limit/base >25 >216	7 0 69 1 1048 1353 1157 1510 3280 current 9 3 3 3	22 <1 37 2 460 1240 973 1205 2448 history 1 ▲ 28 2	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	7 0 69 1 1048 1353 1157 1510 3280 current 9 3 3 3	22 <1 37 2 460 1240 973 1205 2448 history 1 ▲ 28 2 <1	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	7 0 69 1 1048 1353 1157 1510 3280 current 9 3 3 3 2	22 <1 37 2 460 1240 973 1205 2448 history 1 28 2 2 <1 kistory 1	 history 2 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3	7 0 69 1 1048 1353 1157 1510 3280 <u>current</u> 9 3 3 3 <u>current</u> 1.9	22 <1 37 2 460 1240 973 1205 2448 history 1 ▲ 28 2 <1 history 1 0.8	 history 2 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 20 imit/base >25 >216 >20 imit/base >3 >20	7 0 69 1 1048 1353 1157 1510 3280 <u>current</u> 9 3 3 3 3 <u>current</u> 1.9 15.5 27.3	22 <1 37 2 460 1240 973 1205 2448 history 1 ▲ 28 2 <1 history 1 0.8 12.3	 history 2 history 2 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >216 >216 >20 imit/base >3 >20 >30	7 0 69 1 1048 1353 1157 1510 3280 <u>current</u> 9 3 3 3 3 <u>current</u> 1.9 15.5 27.3	22 <1 37 2 460 1240 973 1205 2448 bistory 1 ▲ 28 2 <1 bistory 1 0.8 12.3 24.8	 history 2 history 2 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 20 225 >216 >20 >20 >30 >30 imit/base	7 0 69 1 1048 1353 1157 1510 3280 Current 9 3 3 3 Current 1.9 15.5 27.3 Current	22 <1 37 2 460 1240 973 1205 2448 bistory 1 28 2 <1 bistory 1 0.8 12.3 24.8 bistory 1	 history 2 history 2 history 2



OIL ANALYSIS REPORT

VISUAL





			method			history 1	
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
		scalar	*Visual	NORML	NORML	NORML	
May26/23	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water		*Visual		NEG	NEG	
		scalar		>0.2			
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PROPI	ERTIES	method	limit/base	current	history 1	history 2
	Visc @ 100°C	cSt	ASTM D445	14.4	14.8	11.8	
	GRAPHS						
	Ferrous Alloys						
	iron						
	50 - nickel						
	40-						
	틆 30 -						
	20						
	10						
	Apr27/22			:6/23			
	Apr2			May26/23			
	Non-ferrous Meta	als					
	²⁵⁰ T						
	copper						
	200 - tin						
	200 tin						
	200 - sesses tin						
	200 tin						
	150						
	150						
	200 tim 150 tim 100 to 0 tim						
	200 tim 150 tim 100 to 0 tim			26/23			
	200 tin 150 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			May26/23			
	Viscosity @ 100°	c		May26/23	Base Number		
	200 tin 150 100 50 0 201 100 100 0 201 100 100 1	c		14.0	r;		
	200 tim 150 tim 100 tim 50 tim 200 tim 100 tim 100 tim 200 tim 100 tim 200	c		14.0	Base Number		
	Viscosity @ 100°	c		14.0	Abnormal		
	Viscosity @ 100°	c		14.0	r;		
	Viscosity @ 100°	c		14.0	Abnormal Base		
	Viscosity @ 100°	c		14.0	Abnormal		
	200 tin 150 tin 100 tin 50 tin 100 tin 50	c		14.0	Abnormal Base		
	200 tim 150 tim 100 tim 50	c		14.0- 12.0- (CH 10.0- (D)	Abnormal Base		
	200 tim 150 tim 100 tim 50	c		14.0- 12.0- (Shot) 10.0- (Shot)	Abnormal Base Abnormal		
	200 tim 150 tim 100 tim 50	c		14.0- 12.0- (CH 10.0- (D)	Abnormal Base		
Laboratory Sample No. Lab Number Unique Numbr Test Packag	Viscosity @ 100° Viscosity @ 100°		i : 02 . ed : 02 .	14.0 12.0 10.0	Abnormal Base Abnormal		

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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