

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 8921026

Component Diesel Engine Fluid {not provided} (--- 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.

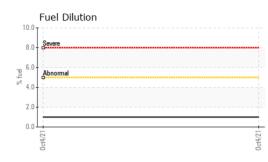
Fluid Condition

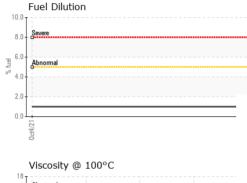
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

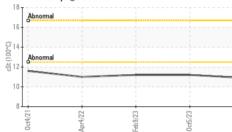
			11 1. 11			
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0034906	IL06009296	IL05772466
Sample Date		Client Info		04 Jan 2024	05 Oct 2023	09 Feb 2023
Machine Age	mls	Client Info		234838	228437	200611
Oil Age	mls	Client Info		0	40000	40000
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
	nnm	ASTM D5185m	>100	22	13	24
Iron Chromium	ppm	ASTM D5185m		1	1	24
Nickel	ppm	ASTM D5185m	>20	0	<1	0
Titanium	ppm		>4	0	<1	0
	ppm	ASTM D5185m	. 2			
Silver	ppm	ASTM D5185m ASTM D5185m	>3	0	0	0 3
Aluminum	ppm			6 5	2	3
Lead	ppm	ASTM D5185m				
Copper	ppm	ASTM D5185m		<1	1	<1
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	current 22	history1 22	history2 21
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	22	22	21
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	22 0	22 0	21 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	22 0 44	22 0 42	21 0 45
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	22 0 44 <1	22 0 42 <1	21 0 45 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	22 0 44 <1 507	22 0 42 <1 489	21 0 45 <1 483
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	22 0 44 <1 507 1618	22 0 42 <1 489 1618	21 0 45 <1 483 1607
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	limit/base	22 0 44 <1 507 1618 783	22 0 42 <1 489 1618 722	21 0 45 <1 483 1607 711
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	limit/base	22 0 44 <1 507 1618 783 910	22 0 42 <1 489 1618 722 891	21 0 45 <1 483 1607 711 892
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	limit/base	22 0 44 <1 507 1618 783 910 2348	22 0 42 <1 489 1618 722 891 2296	21 0 45 <1 483 1607 711 892 2390
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	limit/base	22 0 44 <1 507 1618 783 910 2348 current	22 0 42 <1 489 1618 722 891 2296 history1	21 0 45 <1 483 1607 711 892 2390 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	22 0 44 <1 507 1618 783 910 2348 current 8	22 0 42 <1 489 1618 722 891 2296 history1 6	21 0 45 <1 483 1607 711 892 2390 history2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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 ASTM D5185m	limit/base >25 >20	22 0 44 <1 507 1618 783 910 2348 current 8 3	22 0 42 <1 489 1618 722 891 2296 history1 6 3	21 0 45 <1 483 1607 711 892 2390 history2 7 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	22 0 44 <1 507 1618 783 910 2348 <u>current</u> 8 3 10	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5	22 0 44 <1 507 1618 783 910 2348 current 8 3 10 <1.0 current	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7 <1.0 history1	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9 9 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3	22 0 44 <1 507 1618 783 910 2348 <i>current</i> 8 3 10 <1.0 <i>current</i> 0.6	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7 <1.0 history1 0.5	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9 <1.0 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3 >20	22 0 44 <1 507 1618 783 910 2348 current 8 3 10 <1.0 current 0.6 11.8	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7 <1.0 history1 0.5 11.1	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3 >20 >3 >20	22 0 44 <1 507 1618 783 910 2348 current 8 3 10 <1.0 current 0.6 11.8 23.2	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7 <1.0 history1 0.5 11.1 22.6	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9 <1.0 history2 0.5 12.1 23.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >20 >5 limit/base >3 >20 >30 >30	22 0 44 <1 507 1618 783 910 2348 current 8 3 10 <1.0 current 0.6 11.8 23.2	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7 <1.0 history1 0.5 11.1 22.6 history1	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9 <1.0 history2 0.5 12.1 23.5 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3 >20 >3 >20	22 0 44 <1 507 1618 783 910 2348 current 8 3 10 <1.0 current 0.6 11.8 23.2	22 0 42 <1 489 1618 722 891 2296 history1 6 3 7 <1.0 history1 0.5 11.1 22.6	21 0 45 <1 483 1607 711 892 2390 history2 7 0 9 <1.0 history2 0.5 12.1 23.5



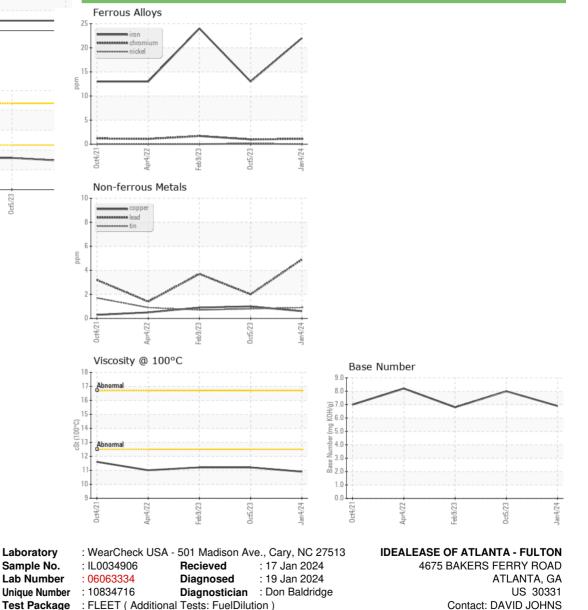
OIL ANALYSIS REPORT







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	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		10.9	11.2	11.2
GRAPHS						





 Certificate 12307
 Test Package
 : FLEET (Additional Tests: FuelDilution)

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
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 * - 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)

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