

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

812033

Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (--- Shots)

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.

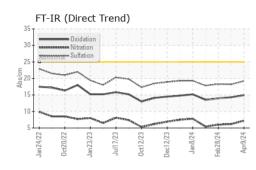
Fluid Condition

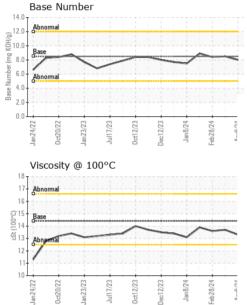
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111947	GFL0111965	GFL0107958
Sample Date		Client Info		09 Apr 2024	04 Mar 2024	28 Feb 2024
Machine Age	hrs	Client Info		5740	5523	5495
Oil Age	hrs	Client Info		600	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	3	2
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	7	4	4
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	0	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		•	0	0
Caumum	ppm	AGTIM D3103III		0	0	0
ADDITIVES	ppin	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base 250	-		-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current 2	history1 3	history2 3
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	250 10	current 2 <1	history1 3 0	history2 3 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 2 <1 57	history1 3 0 56	history2 3 0 55
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 2 <1 57 <1	history1 3 0 56 0	history2 3 0 55 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	current 2 <1 57 <1 965	history1 3 0 56 0 1034	history2 3 0 55 <1 904
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	250 10 100 450 3000	current 2 <1 57 <1 965 1079	history1 3 0 56 0 1034 1189	history2 3 0 55 <1 904 975
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	Current 2 <1 57 <1 965 1079 1055	history1 3 0 56 0 1034 1189 1043	history2 3 0 55 <1 904 975 982
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	current 2 <1 57 <1 965 1079 1055 1300	history1 3 0 56 0 1034 1189 1043 1322	history2 3 0 55 <1 904 975 982 1221
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	Current 2 <1 57 <1 965 1079 1055 1300 3620	history1 3 0 56 0 1034 1189 1043 1322 3104	history2 3 0 55 <1 904 975 982 1221 2918
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current 2 <1 57 <1 965 1079 1055 1300 3620 current	history1 3 0 56 0 1034 1189 1043 1322 3104 history1	history2 3 0 55 <1 904 975 982 1221 2918 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2	history2 3 0 55 <1 904 975 982 1221 2918 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5 2	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2 <1	history2 3 0 55 <1 904 975 982 1221 2918 history2 3 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5 2 3	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2 <1 0	history2 3 0 55 <1 904 975 982 1221 2918 history2 3 <1 -1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5 2 3 current	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2 <1 0 history1 0 history1	history2 3 0 55 <1 904 975 982 1221 2918 history2 3 <1 <1 <1 <1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5 2 3 current 0.3	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2 <1 0 history1 0 history1 0.2	history2 3 0 55 <1 904 975 982 1221 2918 history2 3 <1 <1 <1 <1 0.2
ADDITIVES 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 ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >158 >20 i mit/base >3 >20	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5 2 3 current 0.3 7.2	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2 <1 0 history1 0 history1 0.2 6.2	history2 3 0 55 <1 904 975 982 1221 2918 history2 3 <1 history2 0 0.2 6.0
ADDITIVES 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 ppm ppm	method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base >3 >20	current 2 <1 57 <1 965 1079 1055 1300 3620 current 5 2 3 current 0.3 7.2 19.2	history1 3 0 56 0 1034 1189 1043 1322 3104 history1 2 <1 0 history1 0.2 6.2 18.2	history2 3 0 55 <1 904 975 982 1221 2918 history2 3 <1 <1 <1 0.2 6.0 18.3



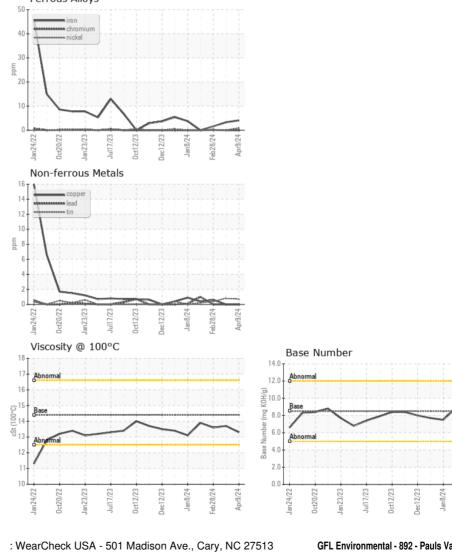
OIL ANALYSIS REPORT





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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	13.7	13.6
GRAPHS						

Ferrous Alloys



Laboratory GFL Environmental - 892 - Pauls Valley Hauling Sample No. : GFL0111947 Received : 11 Apr 2024 1910 S CHICKASAW STREET Lab Number : 06146415 Tested : 12 Apr 2024 Pauls Valley, OK US 73075 Unique Number : 10976493 Diagnosed : 12 Apr 2024 - Wes Davis Test Package : FLEET Contact: Tony Graham Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. tgraham2@wcamerica.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL892 [WUSCAR] 06146415 (Generated: 04/12/2024 16:36:07) Rev: 1

Contact/Location: Tony Graham - GFL892 Page 2 of 2

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