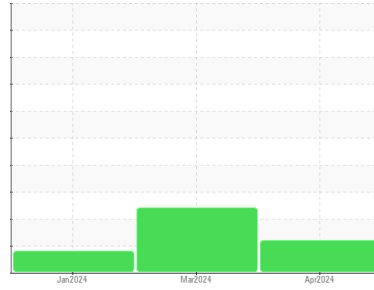




OIL ANALYSIS REPORT

Area
Action Newark
 Machine Id
CATERPILLAR 5659
 Component
Diesel Engine
 Fluid
 {not provided} (--- GAL)

Sample Rating Trend



FUEL



DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0924892	WC0889535	WC0858397
Sample Date	Client Info		12 Apr 2024	22 Mar 2024	18 Jan 2024
Machine Age	hrs	Client Info	4063	3847	3301
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	SEVERE	MARGINAL

CONTAMINATION

	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	
Iron	ppm	ASTM D5185m	>100	5	13	22
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	5	6
Lead	ppm	ASTM D5185m	>40	0	<1	2
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		7	7	26
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		54	48	38
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		763	762	470
Calcium	ppm	ASTM D5185m		1012	1188	1541
Phosphorus	ppm	ASTM D5185m		936	1000	861
Zinc	ppm	ASTM D5185m		1142	1168	1055
Sulfur	ppm	ASTM D5185m		3537	3670	2712

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	2	5	8
Sodium	ppm	ASTM D5185m		1	2	2
Potassium	ppm	ASTM D5185m	>20	0	<1	<1
Fuel	%	ASTM D3524	>5	▲ 6.2	▲ 8.5	▲ 4.7

INFRA-RED

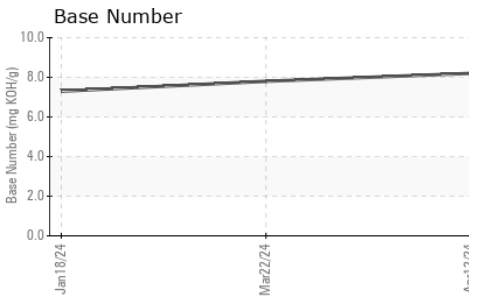
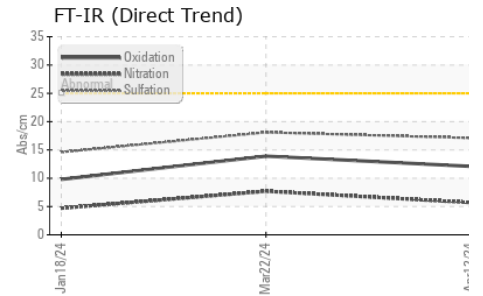
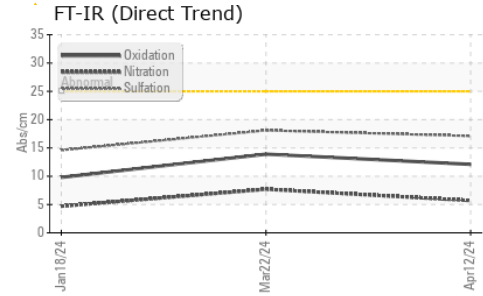
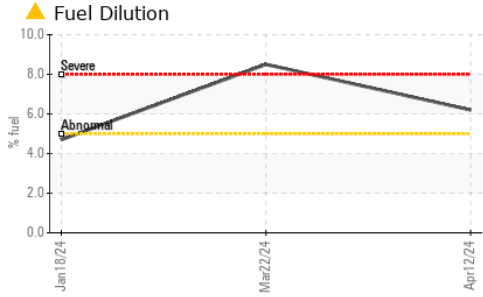
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.2	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.7	7.7	4.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.1	18.1	14.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.1	13.9	9.8
Base Number (BN)	mg KOH/g	ASTM D2896		8.2	7.8	7.3



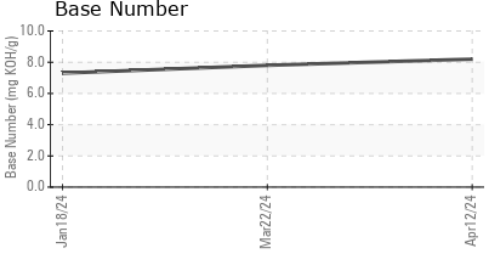
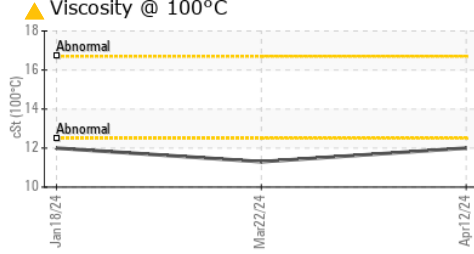
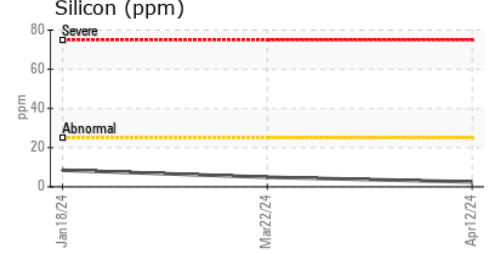
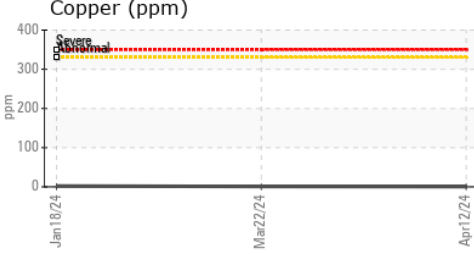
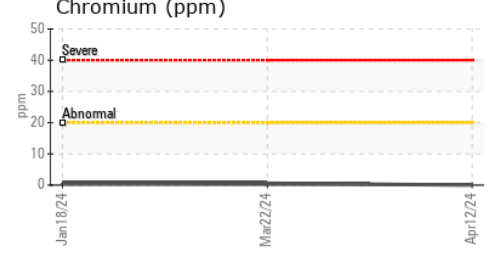
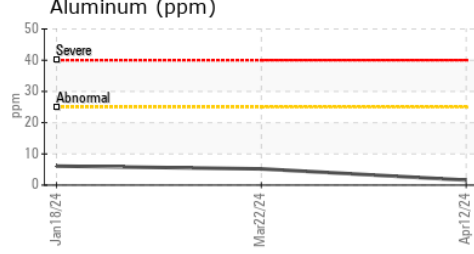
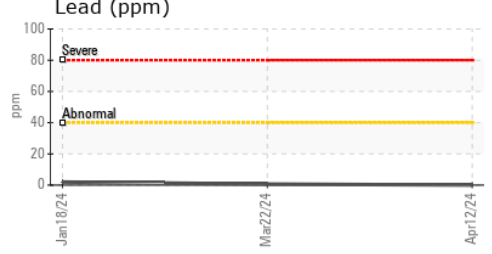
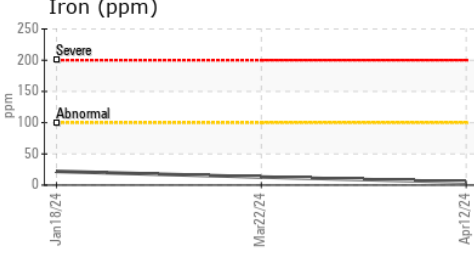
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
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
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 12.0	▲ 11.3	12.0

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0924892 **Received** : 23 Apr 2024
Lab Number : 06157431 **Tested** : 25 Apr 2024
Unique Number : 10992854 **Diagnosed** : 25 Apr 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

INTERSTATE WASTE-NEWARK
 110 EVERGREEN AVE, BAY 3
 NEWARK, NJ
 US 07114
 Contact: Robert Witynski
 RWitynski@interstatewaste.com

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

* - 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)